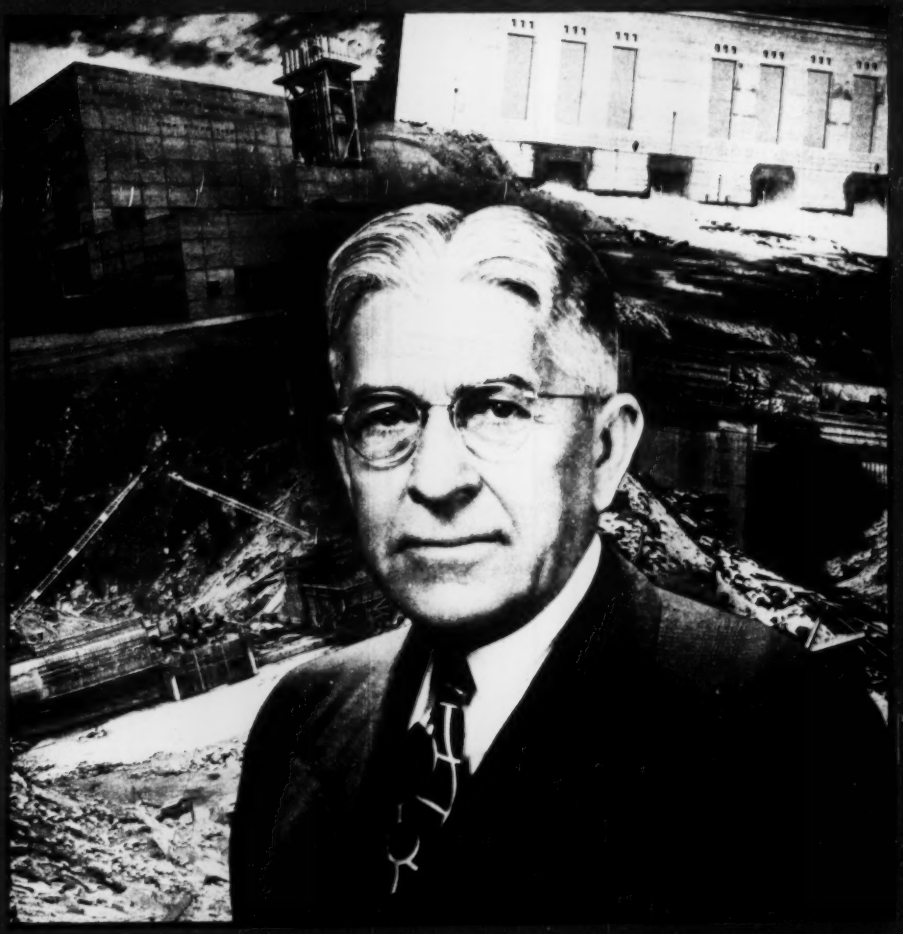
ENGINEERING NEWS-RECORD

MAY 5, 1949



I. C. Stuart—he directs the nation's largest private construction program

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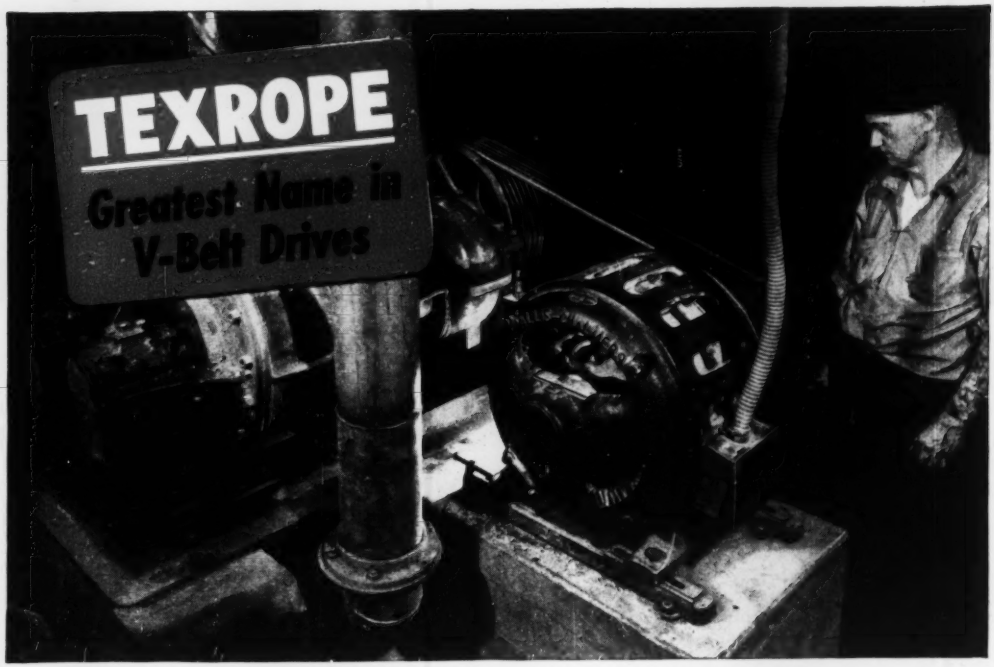

"No Upkeep Now"

BELT SLIP ELIMINATED, BEARING DAMAGE STOPPED, POWER WASTE ENDED WHEN *TEXROPE* V-BELT DRIVE REPLACES FLAT BELT.

CHIEF PLANT ENGINEER in this midwest plant says, "The old flat belt on this blower drive was twelve inches wide on twenty foot centers. Not only was it heavy but it also absorbed a lot of power.

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"Four years ago an Allis-Chalmers representative recommended this *Texrope* drive. It doesn't slip at all, doesn't hurt the bearings and we haven't spent a cent on it. I wish we had changed to a *Texrope* drive years sooner."

Money-saving performance like this is one of the reasons why more *Texrope* industrial V-belt drives have been installed since 1926 — when Allis-Chalmers originated the multiple V-belt drive — than any other kind.

The *Texrope* line gives you practically everything you need for any V-belt drive . . . V-belts, standard and *Vari-Pitch* sheaves and speed changers . . . all from one reliable source. You can engineer 90% of all V-belt drives yourself with the help of the *Texrope* Pre-engineered Drive Manual. See your A-C Authorized Dealer or District Office or write for Bulletin 20B6956. Also in Sweet's.

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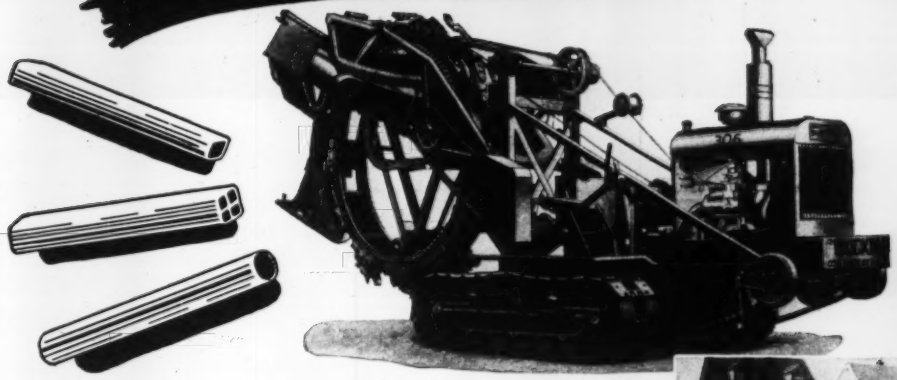

The 401 Pony Ditcher—Smallest in the Buckeye Line — ideal for service pipe, small mains, telephone cable ditching. Digs ditch 8" wide, up to 4' deep.

The 312 — Buckeye Pipeline and Utility Ditcher. Built for those gruelling jobs. Digs ditch 16" to 30" wide, up to 6' deep.

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Out in the wide-open spaces or up against curbs and sidewalks—the NEW Buckeye 306 Utility Ditcher is equally at home, equally efficient. Rugged, heavy duty crawlers provide firm footing in all types of soils and any terrain. Yet the large bearing area (pressure is less than 5 lbs. p.s.i.) and the streamlining of projecting members is easy on parkway lawns and permits operation close to trees, fire plugs, etc.

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ENGINEERING NEWS-RECORD

VOLUME 142 **MAY 5, 1949** **NO. 18**

WALDO G. BOWMAN
Editor

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THE COVER PICTURE

I. C. Steel has risen to the top of the story-book American business career—from a 25-cent-an-hour laborer to director of a construction program that costs more than $12,500,000 a week.

Now vice president and chief engineer of the huge Pacific Gas & Electric Co.—largest private construction investor in the nation at the moment—"Cleve" Steel started with the company in 1909 as a day laborer on a dam building job.

A native Californian, Mr. Steel graduated in civil engineering from the University of California (1909) after a college career that included stellar performances on the baseball diamond.

He joined the PG&E immediately after graduation, and has spent his entire professional career with that utility. Less than a year after he started, he was in charge of a field construction crew; by 1917 he headed the company's civil engineering group.

Appointed chief engineer in 1944 and vice-president in 1947, he has executive charge of all work in the PG&E engineering department—currently a $600,000,000 investment in hydro and steam generating facilities, and gas transmission and distributing lines.

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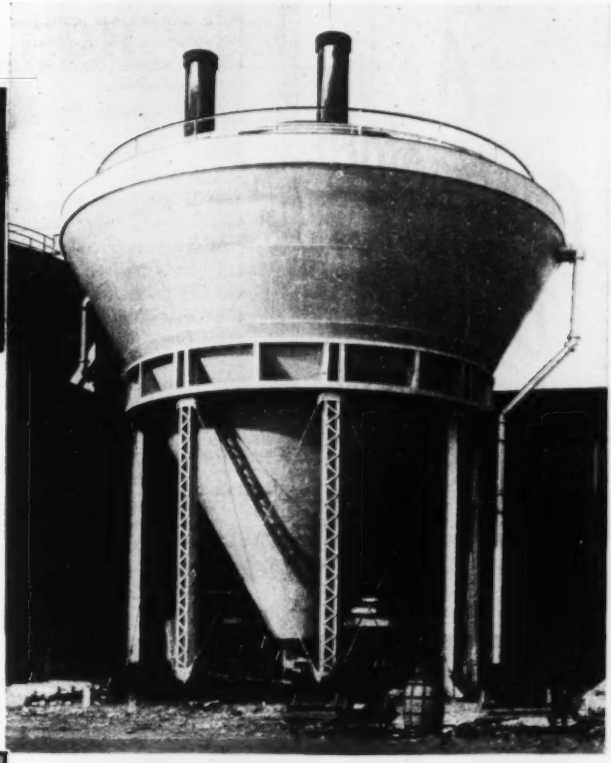
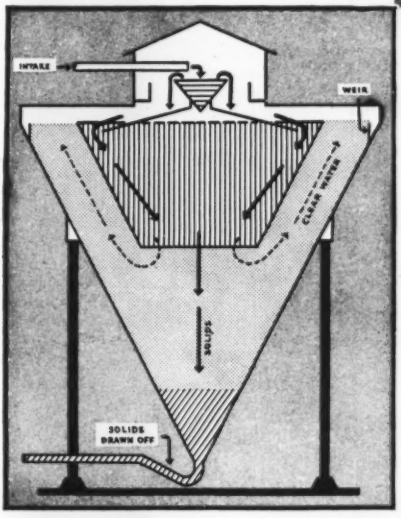
The MARX SAVEALL

the economical way to remove suspended solids from waste water





Waste white water at paper mills can now be clarified effectively and economically by means of the Marx Saveall. This ingenious unit removes most of the suspended fibrous solids (in one instance, 97.4%) and makes it possible to draw off the solids for re-use.

Clarification is accomplished by a settling process. (See diagram at left) Waste water is fed into the receiving well at the top and overflows onto the deaeration plate and over its edge into the inner cone. Suspended solids settle through to the bottom of the outer cone. Clarified water rises between the inner and outer cones and flows over the weir into a draw-off channel.

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ARMCO STEELOX Buildings are easily and quickly moved. They retain structural strength and weathertightness even when dismantled and re-assembled many times. Obsolescence is never a problem. A STEELOX Building can be quickly extended with standard parts. Loosening a few bolts and re-arranging the panels permit changing doors and windows.

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There is a size and type of Standard ARMCO STEELOX Building for almost every contracting need, and delivery when you need it. Write for complete information. Armco Drainage & Metal Products, Inc., 2355 Curtis Street, Middletown, Ohio. Export: The Armco International Corporation.

STEELOX Timetable

Actual case history shows how one owner moved a Standard STEELOX Building (12' x 32' x 8') to a new site using only 5 men and a truck.

7:00-10:30 A. M.—*Dismantled building and loaded on truck.*
10:30-11:00 A. M.—*Driving to new site.*
11:00-11:30 A. M.—*Lunch.*
11:30- 7:00 P. M.—*Building completely re-erected and ready for use.*
Only a *total of 55 man-hours required for complete move.*

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THE CONSTRUCTION WEEK

NO RECESSION—Business hasn't been moving into a serious recession—and won't do so in the period immediately ahead. That's the considered opinion of the McGraw-Hill Economics Department, unchanged since last fall. What may happen—say after Labor Day—depends on federal government policies with respect to defense outlays and taxes. These factors make the long-range business prospects obscure, because, taking them into account, there is almost $10 billion difference between the conservatives and the extremists viewing our economy. Until a gap of such magnitude can be closed, business will be in doubt. Example: if the taxes go up the $4 billion asked by the President, outlays now planned for new plants and equipment will be pared.

DETROIT HOUSING BOOMS—Public demand for new housing, plus a marked easing in building supplies has launched a building boom in Metropolitan Detroit—largely in the low-price field. Early results in a poll conducted by local newspapers indicate that within the next six months, 70 contractors, real estate groups and investment companies will build 4,962 single houses, 47 percent of them in the $7,000-$11,000 class; 782 rental units; 118 duplex houses, and others. Largest single project is 1,000 custom built homes (to be built on the customer's lot) by Miller Homes, Inc. Prices of these custom built homes will range from $6,290 to $9,000.

STEEL PRICE ANGLE—The Kaiser Co. is one of the first steel producers to admit it would grant freight allowances on steel from its Fontana mill to permit its entry into the competitive market in northern California and other western areas. Like other companies previously reported to be expanding business this way (ENR April 21,p.5), Kaiser is apparently acting under an interpretation of the Supreme Court's original basing-point decision, which was understood to permit steel producers as individuals—not in concert—to offer competitive advantages. However, the court's decision of Apr. 25 has apparently knocked the props from under that interpretation as reported elsewhere in this issue.

COSTS UP OR DOWN?—Although on a national level construction cost indexes seem stable or trending downward, there seems to be plenty of debate as to whether the trend is up or down. Instance: Although PRA last week (ENR April 28,p.29) reported road costs dropping, the Maryland Road Commission reported it expected unit costs of its widening and resurfacing program this year would be a third more than in 1948; New York State declared prices were stabilized. Another: Maryland reported it had received bids running 10 cents per cubic foot below estimates on Morgan State College buildings; but the Fort Worth, Texas, Home Builders' Association said it expected building costs to go up again, particularly in view of increasing construction activities in the North.

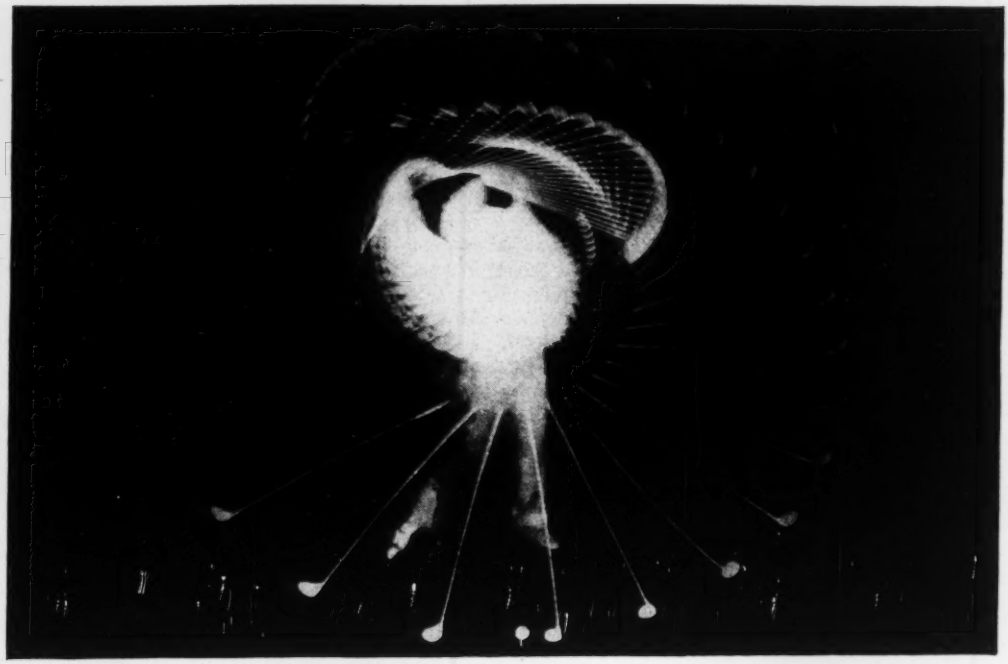
CONDEMNATION SHORT CUT?—With an eye on speeding governmental construction programs, the Michigan state senate has approved a constitutional amendment shortcutting jury hearings in condemnation cases. A governmental unit would be permitted to determine the need for condemnation without jury hearing—though disputes over fair compensation to the property owner could still be settled by a jury.

SECOND WASHINGTON AIRPORT?—CAA has sent the Budget Bureau a request for funds to option land and prepare plans for another Washington airport. Location of the facility has reportedly narrowed down to two sites, both of which are at almost the same taxi distance from downtown as the present field.

EXPECTED DOWNTREND—Highway bid prices and contract award volume dropped in the first quarter of 1949—an expected decline that gives further evidence of sharpened competition and contractor confidence that costs will go down. The drop in volume of awards was a bit disconcerting, however—less than $190 million in the first quarter of 1949 compared to $215 million in 1948. However, observers say the drop hardly points a trend—legislatures were meeting in 44 states during the quarter, and a heavy winter in the Great Plains and Rocky Mountain states slowed down highway work.

ENTERTAINMENT NOTE—The Colorado River controversy between California and Arizona has its compensations. California areas dependent on the stream recently gave 18 Washington correspondents a deluxe five-day round-trip junket. Too late to catch the travellers, Arizona wired the publishers back home to have the junketeers stop over in Phoenix for a fill-in on the left bank's contentions.

There's a **PATTERN OF PERFECTION** *in Chlorination too*



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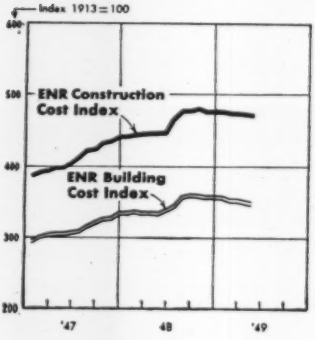
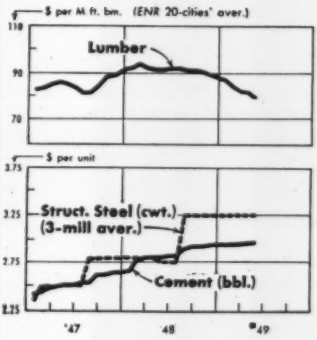
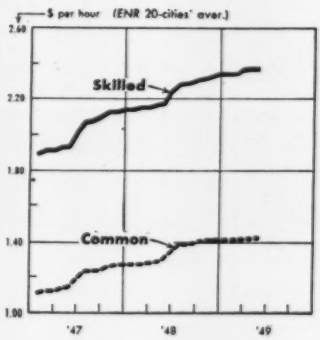
MAY CONSTRUCTION BUSINESS REPORT







ENR INDEXES (1913 = 100)	May '49	Apr. '49	% Change	May '48	% Change
Construction Cost	472.10	473.54	−0.3	444.86	+ 6.1
Building Cost	348.92	351.35	−0.7	333.93	+ 4.5
MATERIALS PRICES (20-cities' average)					
Cement, bulk, per bbl	$2.990	$2.980	+0.3	$2.810	+ 6.4
Structural Steel, (3-mill aver.), per cwt	3.250	3.250	0.0	2.750	+18.2
Sand, per ton	2.005	2.010	−0.3	1.911	+ 5.0
Lumber, 2x4 Fir, per M ft. bm	86.320	89.740	−3.8	96.160	− 2.0
Lumber, 2x4 Pine, per M ft. bm	74,080	77.250	−4.1	88.770	−16.5
Common brick, per M	27.769	27.769	0.0	25.500	+ 8.9
Ready-mixed concrete, per c. y.	10,211	10.244	−0.3	9.924	+ 2.9
Structural Clay Tile, 3x12x12 per M	131.608	130.720	+0.7	124.200	+ 6.0
WAGE RATES (20-cities' average)					
Common	1.431	1.424	+0.5	1.300	+10.1
Skilled (aver. 3 trades)	2.384	2.378	+0.3	2.180	+ 9.4
Bricklayers	2.606	2.602	+0.2	2.343	+11.2
Structural Ironworkers	2.356	2.351	+0.2	2.192	+ 7.5
Carpenters	2.188	2.183	+0.2	2.006	+ 9.1

CONTRACTS AWARDED (thous.)	April 1949	1948	% Change†	Four Months 1949	1948	% Change†
Total U. S. (ENR reported)	$589,693	$777,159	−24	$2,462,132	$2,201,853	+18
Private	274,021	391,268	−29	1,221,797	1,046,522	+24
Public	315,672	385,891	−18	1,240,335	1,155,331	+14
Federal	49,669	114,886	−57	362,658	404,394	− 5
ENR Const. Volume Index, '13 = 100	268	302	−11	262	236	+11
NEW CONSTRUCTION CAPITAL						
Total	390,480	446,838	−13	1,658,886	1,224,426	+43
State & Mun. Bond Sales	158,706	166,181	− 4	814,499	520,880	+66
Corporate Security Sales	231,774	280,657	−17	844,387	703,546	+27
Federal (non-federal work)	.....	.....	.....	.....	.....	.....
Federal (federal work)	.....	.....	.....	.....	.....	.....

MATERIAL SHIPMENTS & LABOR SUPPLY	March(M) February(F) 1949	1948	% Change	Three Months 1949	1948	% Change
Cement, thous. bbls., Bu. of Mines	9,134 (F)	8,338(F)	+10	17,890	17,543	+2.0
Fabr. Struct. Steel, thous. tons, AISC	178 (M)	167(M)	+1.1	479	455	+1.0
Lumber, mil. ft. bm., NLMA	2,471*(M)	3,021(M)	−18.2	6,604*	8,432	−21.6
Lumber Prod., mil. ft. bm., NLMA	2,598*(M)	3,022(M)	−14	6,879*	8,221	−16.3
Contract Const. Employ., thous., BLS	1,824*(M)	1,660(M)	+10	5,498*	4,912	+12

†Computed on weekly average basis. *Estimate.

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New Frontier for Engineers

NEWFOUNDLAND became the tenth Canadian province last month. The event is important to U. S. as well as to Canadian engineers, who find their jurisdiction extended far out into the Atlantic to include the ports and railways of that remote region and the great airbases at Gander and Goose Bay.

During the war Americans learned in a dramatic way that Newfoundland, which includes Labrador, was a strategic region on the air route to Europe. Since the war, discovery of what appear to be vast iron ore deposits in northeastern Quebec near the Labrador border already has taken a few mining engineers into that area. These deposits probably extend into Labrador. Exploitation of them means that highway, railway and airport engineers, as well as builders of every description, must follow the mining engineers. And as cheap power will be needed, hydro engineers must explore the rivers for power sites. Among the first to be studied will be the Hamilton River in Labrador, which is known to have great power potentialities. Here indeed is a new frontier for engineers.

Grading Society Members

PROGRESS IS BEING MADE toward uniformity in grading members in the principal engineering societies, but universal agreement is still a long way off. That is the conclusion to be drawn from the report of the current work of the Engineers Council for Professional Development made public last month (ENR Apr. 14, p. 54). It seems probable that the civil, mechanical, electrical, mining and chemical societies and the Engineering Institute of Canada will approve *minimum* qualifications for three principal grades of student member, associate member and member, which soon will be recommended to them by ECPD. Some of the societies are expected to take the further step of actually substituting the new qualifications for those now in their constitutions, but the chemical engineers already have indicated that they will not accept them all as they have substantially higher requirements for member grade, which they do not expect to lower.

It appears probable that the American Society of Civil Engineers, which led in the new movement to simplify the grading of members and for more uniformity, will write the qualifications into its constitution at an early date. That will eliminate the present segregation of corporate members into members and associate members, a distinction that has declined in significance in recent years. The present juniors would become associate members under the new setup.

Too much time and money now are spent on the grading work. The sooner it is simplified the sooner the societies can devote that energy and money to more important activities.

Industrial Waste Research Grants

ALMOST A MILLION DOLLARS will be allocated after July 1 to the states through the U. S. Public Health Service for study and research on industrial-waste treatment problems. This will be done under Public Law No. 845, passed last June, which provides for federal participation in stream-pollution abatement. Industry and regulatory agencies are thus to receive substantial aid in their river clean-up programs. At the same time, there is the hazard that this money, distributed among more than 50 agencies, could be easily dissipated on unrelated projects of minor significance. Consequently, the Public Health Service bears a great responsibility in selecting a sound fund-allocation formula for evaluating relative merit of research projects and for insuring their effective coordination and proper execution.

Claiming special attention is a proposal whereby industry would be invited to participate with regulatory agencies in financing and direction of special studies. Industry holds a big stake in this program; in many ways it will be the principal benefactor. It seems entirely possible, therefore, that an industry or a group of industries would be willing to match federal allotments, to share direction with a regulatory agency and to participate in selection of location and procedure for conducting research programs.

Prompt and effective solution of industrial-waste problems is of equal concern to regulatory agencies and to industry. Under U. S. Public Health Service auspices, and its million-dollar fund, an exceptional opportunity exists to unite resources as well as to advance mutual interests.

Falling Cornices

MOST OF THE PEOPLE injured in the recent earthquake in the Pacific Northwest were struck by masonry from falling cornices and chimneys. This is an old story in all earthquake regions, yet little has been done to remove the cause. The cornices, dating from an era when they were considered an essential architectural detail, still hang as Damocles swords over the crowded sidewalks. Getting rid of them, to be sure, is no easy task, because of the possibility of imposing an undue hardship on the owners of the older buildings. But to save lives in future quakes, these insecure ornamentations should be declared a public danger, and ordered removed within a reasonable period of time.

How to make cement *taste better*

In his *Mechanic Exercises or the Doctrine of Handy-works* published in 1678, Joseph Maxon recommended this mix: "Take ½ a Pound of Old Cheshire-Cheese, put to it about a Pint of Cows-Milk, let it stand all Night, the next Morning, get the Whites of 12 or 14 Eggs, then take ½ a Pound of the best Unslackt or Quick Lime that you can get, then sift it through a fine Hair Sieve into a Bole of Wood, to which put the Cheese and Milk, then add the Whites of Eggs".

There's a better way of making cement today . . . and a better way of building the forms today's concrete goes into . . . the "Richmond Way". Here's how the "Richmond Way" will work for you:

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ENGINEERING NEWS-RECORD

MAY 5, 1949 VOL. 142 NO. 18

Pollution by soil erosion stressed by Potomac group

Interstate Commission on Potomac River Basin finds need for corrective measures—See "natural" pollution overlooked—General Motors waste program outlined

By Edward J. Cleary

The Interstate Commission on the Potomac River Basin had levelled a new attack on the problem of pollution abatement last week by focussing attention on the effects of soil erosion.

Representatives of the agency—which includes Maryland, Pennsylvania, Virginia, West Virginia and the District of Columbia—met in Bedford Springs, Pa. on April 21-23 with agricultural, soil conservation and forestry officials to lay plans for corrective measures.

Long concerned with the control of municipal sewage and industrial waste discharges in the fight to improve water quality of streams within the Potomac basin, the commission believes that its objects can hardly be reached if the equally serious but seldom recognized pollutional effects from soil erosion are not curbed.

Measure of the problem

Dimensions of the problem were outlined by Harold A. Kemp, director of sanitary engineering of the District of Columbia, who candidly admitted that he, like many other sanitary engineers, too long had failed to appreciate the magnitude of soil or "natural" pollution in relation to water quality.

Mr. Kemp's studies revealed that last year the mud load of the Potomac at Washington, computed from turbidity tests, was some 1,650,000 tons. Pointing out that soil erosion above the city of Washington was removing annually the equivalent of a 6 in. depth of topsoil from two sq. mi. of area, he pictured an appalling loss affecting land and water users.

"Without minimizing the effect of municipal or industrial wastes", said Mr. Kemp, "I would emphasize that mineral or soils wastes are much more insidious in their destruction of aquatic life than are organic wastes. In fact, turbid water makes fish more susceptible to the effects of organic pollution."

Adequate soil-conservation measures, in the opinion of Mr. Kemp, would conservatively reduce turbidity of the river by more than 75 per cent. Translating this into terms of dollar savings, he cited these yearly reductions in cost that would be possible in the treatment of domestic water for the city of Washington: $34,000 in alum, lime and chlorine requirements; $12,000 for dredging of reservoirs; and $5,000 for filter cleaning.

This down-to-earth appraisal of the economically wasteful and socially harmful river pollution from soils provides further compelling evidence of how we have entered a new conservation era in the United States, said to Dr. Hugh H. Bennett, chief of the U. S. Soil Conservation Service.

Soil conservation programs, pointed out Dr. Bennett, are providing extra dividends in the control of sedimentation in harbors and reservoirs as well as in flood control and pollution abatement.

Said he: "I realize that there doubtless are those who still think—if they think about the matter at all—that the management of farm and pasture lands, and even our woodlands, is wholly the concern of those who own or occupy such lands, and that only these owners or occupiers have to suffer for land's mismanagement, economically or otherwise. They have had no reason to associate the gullies and galls of their fields with the heavy public and private expense they might read about for dredging and main-

(Continued on p. 18)

Court ruling affirms basing point ban

In a recent 4-to-4 tie vote the Supreme Court upheld a Chicago Circuit Court of Appeals decision outlawing basing point pricing. This action was taken by Washington observers as an outlawing of the pricing system, even in cases involving no charge of conspiracy.

The particular case was a test of the Federal Trade Commission's ruling against the pricing method practiced by steel conduit manufacturers.

The conduit makers—now added to cement and steel makers as enforced users of f.o.b. pricing—had appealed to the Supreme Court after FTC and the Circuit Court had found them acting in restraint of trade, although the appellants claimed no collusive agreements existed among them. As in the case of the cement and steel industries the basing point method was judged an unfair method of pricing.

Justice Robert H. Jackson chose not to participate in the 23-word order handed down by the high tribunal. However, as is customary the tie decision affirmed the ruling of the lower court.

The order sheds little light on pricing system problem. It is expected, however, to put impetus behind a move to get Congress to act on legislation to clarify the issue.

At the same time the Supreme Court was issuing its ruling in the steel conduit case, the Senate Judiciary Committee approved a bill sponsored by Senator Francis J. Myers, Pennsylvania Democrat, which would provide a moratorium on new prosecutions of industry for freight absorption. This bill, now on the floor of the Senate, would impose a moratorium on government action in basing point cases until July 1, 1950. It would not affect the steel conduit ruling, nor would it have any bearing on the previous decisions in the steel and cement industries.

Meanwhile, Senator Homer E. Capehart, Indiana Republican who headed a government-industry committee in quest of a solution to the pricing problem, has joined with Senator Edwin C. Johnson, Democrat of Colorado to introduce a bill legalizing freight absorption. This measure would authorize basing point pricing where no conspiracy or collusion is involved.

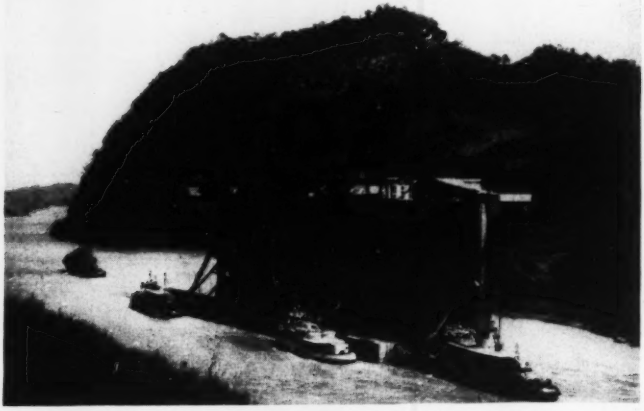
NEWS BRIEFS

Hospitals—Pennsylvania has approved plans for a $10,000,000 Eastern Pa. psychiatric institute at PHILADELPHIA . . . Citizens of EFFINGHAM, ILL., are trying to raise $600,000 by subscription to rebuild St. Anthony's Hospital destroyed by fire on April 5 A new CAMPBELL COUNTY hospital to cost $1,500,000 will be built on a 26-acre tract at FT. THOMAS, KY. . . . . Boston, Mass., has transferred 13 acres in Franklin Park, DORCHESTER, to the state for construction of a $12,000,000 hospital for the chronically ill . . . A 300-bed, $6,000,000 hospital and a $1,000,000 doctors' office building will be constructed next year in NEW ORLEANS at Jefferson Davis Parkway and Bienville as a result of combining the resources of Mercy Hospital and Doctors' Memorial Hospital . . . Plans are being made for a 200-bed hospital to cost $3,500,000, to be built and operated by the SAN DIEGO, CALIF., Hospital Association, Inc. . . . A $1,500,000 hospital of four stories and a basement is being planned by PASADENA, TEX. . . . A $1,350,000 Mary Washington Hospital will be built at FREDERICKSBURGH, VA.

Railroads—Morrison-Knudsen Co. Inc., Los Angeles, has a $2,966,000 contract for the relocation of the Oxford branch of the Chicago, Burlington and Quincy R.R. in FRANKLIN and HARLAN counties, NEB. . . Chicago, Rock Island and Pacific R.R. will spend $3,250,000 on expansion and modernization of its terminal facilities at HOUSTON, TEX. . . . Construction is going ahead on the $2,500,000 relocation of the Chicago and Illinois Midland R.R. tracks and terminal facilities at HAVANA, ILL. . . . British Columbia has started preliminary work on the extension of the Pacific Great Eastern Railway from QUESNEL to PRINCE GEORGE.

Dams—More Garrison Dam hydroelectric power has already been applied for than the dam will produce at full capacity, Roscoe Williamson, district power manager said at Bismarck, N. D., recently. Bruce Johnson, acting district manager of the Bureau of Reclamation said Dickinson Dam may be completed this year.

Power—Duquesne Light Co. has started a power station costing $28,000,000 on a 23-acre site at ELRAMA, near CLAIRTON, PA. . . . At the end of 1948 the Hydro-Electric Power Commission of ONTARIO was supplying power to 900 municipalities and 85,000 farms. The DES JOACHIMS development on the Ottawa River will add 160,000 hp. while the LA CAVE development on the Ottawa River will have an installed capacity of 240,000 hp. to be completed in 1952 . . . The Skagit County Public Utility Dept. of MOUNT VERNON, WASH., is planning to issue $10,000,000 in bonds this year for a 14,000-kw. hydroelectric plant and a 10,000-kw. steam plant.



DRYDOCK MOVING DAY—Atlantic-bound through Gaillard cut at Panama Canal on 960 pontoons is this 15,000-ton Navy drydock. Too wide to fit in locks upright, drydock was turned on its side and towed by six tugs. It was built on East Coast and went to Pacific for war duty. (Wide World Photo)

Let $12 million contract for Canyon Ferry Dam

Contract for construction of Canyon Ferry Dam and power plant in Montana, a unit of the Missouri River Basin Project—was awarded recently to Canyon Constructors on a bid of $11,896,425.

The award was made on a second call for bids, after all original bids had been rejected as excessive. This action, according to Reclamation Commissioner Michael W. Straus, will result in a substantial saving. The low bid at the first opening (December 1) amounted to $12,940,845.

Commissioner Straus pointed out that the $1,044,420 difference between the bids is not all savings, since the revised specifications eliminate certain work estimated to cost about $353,500 and also contain a price adjustment, or escalator, clause.

"Because of the leveling off of construction costs," the commissioner said, "it is believed that payments under the price adjustment clause will amount to less than the $690,920 difference in the respective low bids, thereby resulting in a saving to the government."

Canyon Constructors is a joint venture comprising Brown & Root, Inc., Houston, Tex.; Wunderlich Contracting Co., Jefferson City, Mo.; and the J. C. Maguire and Griffith companies, both of Los Angeles, Calif. The Maguire firm will be the operating partner.

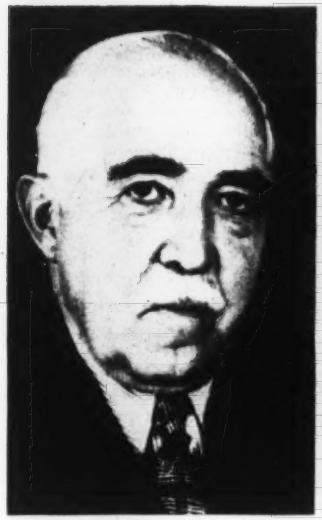
Canyon Ferry Dam—17 miles east of Helena—will create a reservoir of 2,080,000 acre-ft. capacity. It is to be 1¼ miles below the existing but antiquated Canyon Ferry Dam. Negotiations are under way to purchase that site, which will be inundated by the larger reservoir.

Approve $15 million Tampa Bay Bridge

The Florida legislature has removed the last barrier to plans for financing a $15,000,000 bridge and causeway from St. Petersburg to Manatee County across Lower Tampa Bay.

The legislature passed and sent to the governor a bill authorizing the State Improvement Commission to operate a ferry.

Operation of the ferry—now owned by the St. Petersburg Port Authority—was necessary before the construction of the bridge could be approved. The ferry route takes in a good deal of the right-of-way for the structure, and operation of the ferry will assist in financing the new bridge.



Maj. Gen. Philip B. Fleming

Jess Larson

Fleming goes to Maritime Commission; Larson of WAA takes over FWA

President Truman's appointment last week of Maj. Philip B. Fleming, Federal Works Administrator, to be chairman of the U. S. Maritime Commission will give that regulatory agency just what it needs—an ace trouble-shooter who is an able administrator and a proved team leader. The commission has floundered without forceful, unifying leadership for nearly three years, as the Hoover Commission's task force on regulatory commissions pointed out in its special report.

General Fleming has a long record of success in straightening out jumbled government agencies. He served the Roosevelt administration repeatedly as a salvager and rebuilder of scrambled organizations; President Truman now has called on him for similar rescue duty.

As General Fleming's successor at the head of the Federal Works Agency, President Truman named Jess Larson, now War Assets Administrator. The appointment ties in with the President's plan to transfer the War Assets Administration—what little is left of it—and the Bureau of Federal Supply to FWA (ENR April 14, p. 49). Mr. Larson's appointment likewise must be confirmed by the Senate.

General Fleming won his trouble-shooting spurs in 1936 when he was called in from the Passamaquoddy project to become coordinator of the resettlement adminstration.

Two years on Mississippi

He continued his work of making programs run smoothly the following year—1937—when he was named district engineer in St. Paul to take over the 26 lock-and-dam project on the Upper Mississippi. From that post he was suddenly recalled to Washington in October 1939 to take charge of the tangled wage and hour division in the Labor Department.

Evidently it won't take him too long to learn the fundamentals of maritime management and administration. At 61, he is still the same keen, energetic executive that he was ten years ago.

After he had put the wage and hour unit in working order, President Roosevelt on Dec. 10, 1941, called upon him to head FWA. At that time the new agency was in a somewhat unsettled and unstable condition. Today, General Fleming can turn over to Mr Larson a well-meshed, smoothly functioning machine.

Jess Larson, successor to General Fleming as Federal Works Administrator, has repeatedly advocated abolishing his agency—the War Assets Administration—and turning the remainder of its duties over to FWA. In the hot seat as administrator of war assets, he has weathered many a storm in liquidating the nation's war surplus.

Suit dropped; work starts on prestressed bridge

The taxpayer's suit that threatened to hold up construction of the prestressed concrete bridge now under way in Philadelphia, Pa., has been withdrawn. Award of a $698,383 contract had been made to Henry W. Horst Co. The suit sought an injunction against this award (ENR April 21, p. 19).

The contract had been signed April 5 and preliminary work was started shortly thereafter. A hearing, which had been scheduled for April 27, was cancelled along with charges that the city had ignored low bid of $652,000 made by the Corbetta Construction Co., of New York City.

Actually the Corbetta proposal, while low, was on a design differing slightly from that of the city. The city chose to disqualify the bid and made the award to the Horst organization, second low bidder.

All six bids received on the bridge construction contract were below the $750,000 engineers estimate on the cost of the job. Design calls for precasting, then prestressing, main members of the concrete structure (ENR Dec. 30, 1948, p. 16).

Dougherty and Orr named for White House project

President Truman has appointed his two members of the six-man commission on renovation of the executive mansion. He named Richard E. Dougherty, of White Plains, N. Y., and Douglas W. Orr, of New Haven, Conn. Both men have been serving since last summer as consultant-members of the committee on elimination of structural and fire hazards in the White House (ENR Feb. 24, p. 11).

They will serve on the new commission with two Senators and two Representatives still to be chosen. Public Law 40 creating the commission was passed by Congress and signed April 14 as a result of a request by President Truman in March.

The act gives the commission controlling authority over rebuilding of the White House. Thus, the commission shall "(a) approve all construction plans for the renovation and modernization; (b) determine the methods for selecting, and approve the selection of, the general contractor and the subcontractors who will perform the construction work; (c) generally supervise the progress of such construction work."

U.S. agencies see flood danger easing as snow cover gradually disappears

Spring forecasts promise good runoff for most major river basins—Slow melting seen contributing largely to underground supplies

Spring snow surveys by government agencies—Weather Bureau, Geological Survey and Soil Conservation Service—indicate general lessening of flood hazards, with water-year prospects better than normal for most river basins of the West Coast, Rocky Mountain and Great Plains regions.

Forecasters of the three services agree that flood potentials have been widely dissipated or diminished. Unusual coincidence of contributing factors could still produce severe floods in the Columbia River System; but as the Weather Bureau puts it—"statistical odds against the occurrence of a major flood this spring are much greater than they were a month earlier."

"In the west," the Geological Survey said, "the threat of early spring floods from low-altitude snow has greatly diminished, but the temperature and precipitation pattern during the next month will determine whether late-spring floods from the mountain snowpack will result. In most areas, the outlook for adequate surface and groundwater supplies during the coming season is favorable."

On April 15, the Soil Conservation Service warned of possible damaging peak flows in the northwest—if weather conditions during the melting period should be warmer than normal elsewhere, the SCS predicted runoff for the season equal to or better than average.

During March, SCS said, slow melting under alternate warm days and cold nights—plus dry soil below the snow in most areas—had allowed the snow generally to leave the plains and mountain valleys with minimum surface runoff and only limited flooding. Snow was still unusually deep at high elevations, the service reported, indicating high April runoff and well-sustained late-season water flow.

See Columbia danger

Only one area of mild disagreement comes to light in the forecasts of the three agencies: The Weather Bureau estimated peak spring flows and stages for the Columbia River,—assuming near normal precipitation and temperature between April 1 and the occurrence of the peaks—to be about like this: Snake River near Clarkston, 190,000 cfs., 30 ft.; Columbia at Trinidad, 400,000 cfs., 48½ ft.; Columbia near The Dalles, 560,000 cfs., 23¾ ft.

These flows, the bureau said, would result in peak stages of about 22 to 23 ft. in Portland and Vancouver harbors of the Columbia. Last year's flood crested at Portland May 30 with a flow of 1,030,000 cfs. and a stage of 30.3 ft., 12.3 ft. above normal flood stage.

A less confident outlook for the Columbia was put forward by USGS, which declared that a flood potential still exists in above-normal mountain snowpack in the basin. SCS likewise forecast extremely heavy runoff down the main stem of the Columbia during the next six months and warned that damaging peaks will occur—provided the various tributaries synchronize their heavy flows.

Actually these predictions are not far apart, since the Weather Bureau based its forecast on near-normal conditions of past years and pointed out that peak flows will differ from the forecasts if these conditions are not realized. The Bureau warned that some local flooding is likely in the Columbia Basin this spring under average conditions of precipitation and temperature.

Midwest conditions

In the headwaters of the Missouri River, the flood situation evident at the first of February had definitely cleared up by the end of March. USGS reported for Montana that the ice breakup on most streams involved few jams or floods. On the Yellowstone River, for example, the breakup produced only minor flooding above Sidney but caused considerable flooding of farmland from Sidney to the mouth, as ice in the Missouri River was still in place.

For the entire Missouri River—Great Plains region, USGS reported that the threat of early spring floods had largely dissipated.

Favorable western report

Water-year flow-volume forecasts by the Weather Bureau were generally favorable for the eleven western states covered by this agency's survey service. The outlook in the Colorado River Basin—assuming near normal precipitation for the rest of the season—was for flows close to or above normal in all streams of the great watershed.

For California, forecasts of the Weather Bureau are in close agreement with those of the State Division of Water Resources. The state agency reported April 15 that northern California will have ample water supplies this year for irrigation, power and industry.

The Rio Grande Basin is expected to have less than normal flows, according to the Weather Bureau. Inflow into Elephant Butte Reservoir will be 25 percent below normal, even with precipitation near average for the rest of the season—to June 30. In the Pecos River Basin, the Bureau said, the calculated outlook was for 55 percent of normal flows.

PG&E pushes $300 million program

Pacific Gas and Electric Co.'s fifth new postwar unit, the Colgate power plant, will go into operation early in June. This will make a total of 593,200 hp. of new capacity added in the last 12 months to help meet the increasing demand in northern California.

Work is progressing meanwhile on additional plants that will aggregate nearly 1,500,000 hp. more, with the entire 2,000,000 hp. program scheduled for completion before the end of 1951.

This is the largest power building program in the world, and also the largest current private construction investment. From V-J Day to the end of 1948, the investment in new plant facilities exceeded $300 million. Work is now proceeding at a rate of more than $400,000 a day. This program has created jobs for more than 7,000 engineers and construction men led by PG&E chief engineer, I. C. Steele (see cover picture and p. 2).

Before the war, PG&E was predominantly hydroelectric, with 1,458,364 hp. of hydro as compared with 853,384 hp. of steam generating facilities. After the present program is finished, the system will have 2,209,311 hp. of steam generating capacity, compared with 1,885,541 hp. of hydro.

Some of the basic reasoning behind the new accent on steam in historically hydroelectric PG&E was illustrated last year when an unprecedented mid-winter drought taxed the company's hydro output. The reasons for the power shortage include: (1) low generating capacity because of water short-

age, (2) increase in the agricultural pumping load—abnormal by some 300,000 hp., (3) greatly increased population (some 40 percent) since any new capacity had been added and (4) wartime scuttling of the company's policy of building ahead of demand due to building restrictions, and postwar construction delays.

Spectacular hydroelectric developments have been included in the program despite the accent on steam. The electra plant on the Mokelumne River (ENR Oct. 28, 1948, p. 88) represents the next to last step in complete development of this stream. On the north fork of Feather River, work on tunnels in connection with the Cresta and Rock Creek power plants has resulted in construction progress records.

Postwar construction program

Postwar construction completed by the company includes: Kern plant, Bakersfield, 235,000 hp., steam, cost $29,700,000; Electra plant, Mokelumne River, 134,000 hp., hydro, cost $20,800,000; West Point plant, Mokelumne River, 21,000 hp., hydro, cost $5,250,000; and Station P plant, San Francisco, 198,000 hp., steam, cost $30,000,000.

Still under construction are: Colgate plant, Yuba River, 46,200 hp., hydro, to cost $3,325,000; Cresta plant, north fork Feather River, 298,000 hp., hydro, to cost $26,400,000; Rock Creek plant, north fork Feather River, 169,000 hp., hydro, to cost $35,500,000; and Contra Costa plant, Antioch, 402,000 hp., steam, to cost $51,500,000.

Army changes cost-plus to lump sum in successful Alaska contract letting

Ample competition attracted as result of conferences with contractors, easing material supply, guaranteed machine overhaul

After recent bidding on Alaskan work, the Army Corps of Engineers last week was satisfied it had demonstrated that construction in outlying areas can be performed by lump sum contracts.

Previously the Army had been doing its Alaska work by cost-plus-fixed-fee contract because of the continuing uncertainty of construction conditions.

Reduction of those uncertainties was the first key to success in changeover to lump sum. The corps guaranteed supply of certain materials, equipment and parts, as well as elements of living costs; then left the rest of the job up to the contractors.

The second and crucial key to success was a series of pre-bidding conferences held at four cities in the United States (ENR Aug. 5, 1948, p. 59). Col. W. E. Potter, Alaska district engineer, met with contractors to sell them on Alaskan work.

How well Colonel Potter succeeded is indicated by the accompanying table, which shows that two to five contractors bid on each of twelve jobs worth about $25,000,000. Several of the contractors never had worked in Alaska before.

That the contractors not only wanted to work in Alaska, but also considered the propositions, reasonable is indicated by their prices, compared to the engineers' estimate. As a group, the low bidders priced their work 2 percent below the total estimate. Two were more than 25 percent lower, and only one was particularly high.

Reduction of uncertainty started with supplies. The district now has two large depots, containing $20,000,000 worth of supplies, a large part of which will be used in current and future operations. Since a large amount of this supply stock was wartime purchased, the government will reflect not only a great savings in construction outlay, but will also recoup on some of the war-time expenditures at close to the face value of the materials.

The district also has repaired and put in good running order more than a thousand pieces of equipment, which will be furnished to the contractors free of charge. They stripped the equipment to the frame and entirely rebuilt a large part of it. This was important in attracting bidders, because the extent of the overhaul work was obvious. The district believes that it will recoup much more in theoretical rentals than the cost of the repairs.

In addition, fixed housing and messing costs have been guaranteed by the district.

The problems of changeover were enormous in detail. For instance, it required six months' day and night work by engineer corps and architect-engineer forces to make plans and specifications for the competitive bids.

The contracts listed are only the beginning of lump-sum work in Alaska. The district is satisfied that the method is feasible, and it hopes to attract still more statewide contractors, especially from the Midwest and East.

SUMMARY OF BIDS—FISCAL YEAR 1948-49 PROGRAM—ALASKA
Department of The Army—Office of the Chief of Engineers

Station	Project	Government Estimate	Low Bid Amount	%	2nd Low	3rd Low	No. of Bidders	Date Opened
Ft. Richardson	*3 500-man Barracks	$7,789,474	$7,947,000	+ 2%	$8,071,048	$9,508,965	3	15 Dec 48
Ft. Richardson	1 500-man Barracks	3,164,788	3,275,145	+3½%	3,523,000	.....	2	15 Dec 48
Ladd AFB	*1 500-man Barracks	1,527,001	1,988,519**	+30%	1,985,553**	2,239,854	3	15 Dec 48
Ladd AFB	1 500-man Barracks	3,650,179	3,778,239	+3½%	3,823,450	.....	2	15 Dec 48
Ladd AFB	*72 Family Quarters	2,215,914	1,598,757	−28%	2,185,000	2,265,000	5	15 Dec 48
Ladd AFB	56 Family Quarters	2,107,082	2,063,000	− 2%	2,087,000	2,186,095	3	18 Dec 48
Ft. Richardson	21 Family Quarters	827,423	687,000	−17%	774,000	897,657	5	19 Jan 49
Ft. Richardson	1 20-man BOQ	309,414	282,813	− 9%	309,750	361,842	5	19 Jan 49
Ladd AFB	2 20-man BOQ	707,437	624,000	−12%	736,000	847,000	4	18 Dec 48
Ft. Richardson	Perm Depot Storage	1,929,756	1,627,338	−16%	1,879,976	1,880,367	4	19 Jan 49
Whittier Port	Warehouse on Dock	777,850	725,000	− 7%	746,000	798,000	5	19 Jan 49
Ft. Richardson, Ladd AFB, Eielson AFB	Concrete Supply	315,844	233,179	−26%	290,891	313,235	4	9 Feb 49
Totals		$25,322,162	$24,829,990	− 2%	$26,411,668			

*These bids for completion of projects partly constructed under prior programs.
**Low bid for Barracks only is $1,988,519. Bid of $1,985,553 shown as 2nd low was contingent upon award of contract for the 72 Family Quarters at Ladd AFB to this party. Total of his two bids was greater than total of the two bids accepted.

Design of Concrete Beams Reinforced in Tension and Compression

Boris W. Boguslavsky
Professor of Architectural Engineering
Georgia Institute of Technology
Atlanta, Ga.

PLASTIC FLOW in the compression zone of a concrete beam reinforced in compression causes a gradual shift of the compression force from the concrete to the compression steel. This phenomenon has been taken into account by designers in a number of ways (several are given in "Reinforced Concrete Design," by Sutherland and Reese, p. 84. John Wiley & Sons, New York, N. Y.). This has been done chiefly through some interpretation of specification 706 (b) of the Building Code Requirements for Reinforced Concrete of the American Concrete Institute, which provides that:

"The effectiveness of compression reinforcement in resisting bending may be taken at twice the value indicated from the calculations assuming a straight-line relation between stress and strain and the modular ratio n given in Section 601, but not of greater value than the allowable stress in tension."

Interpretations of this specification usually possess one weakness: Beams designed by these methods do not respond to analysis by the transformed-section method.

Here is a new interpretation of specification 706 (b) that will enable stresses to be obtained by transformed-section analysis that will agree with design stresses:

The phase of the problem that has been generally overlooked concerns the relationship between compressive stresses in the concrete and in the steel. It has been generally assumed in the interpretations of the code that the maximum allowable stresses occur in both materials at the same time. This assumption is not admissible if the straight-line variation of stress is adopted as the basis of analysis.

From the similar triangles of Fig. 1,

$f_c'/(f_s'/2n) = x/(x - d')$, from which

$$f_s' = \frac{x - d'}{x}\,(2\,n\,f_c') \qquad (1)$$

where f_c' is the stress in the extreme concrete fiber and f_s' the stress in the compression steel. According to the code, if the concrete is stressed to the limit, $2\,n\,f_c' = 27{,}000$ for all grades of concrete.

The maximum value of f_s' may not exceed 20,000, and the fraction $(x - d')/x$ is generally greater than 20,000/27,000, or 0.74, except in very shallow beams. Therefore, in most cases, the maximum allowable stress in the concrete, if permitted to occur, would be accompanied by an excessive stress in the compression steel. It also follows that if this is not to occur, the maximum allowable stresses must be assumed to exist only in the tension and compression steels, and the concrete is understressed.

Assuming, therefore, the compression and the tension steels, respectively, to be stressed to their allowable values f_s' and f_s, the location of the neutral axis is determined from the similar triangles of Fig. 1:

$$\frac{f_s'}{f_s} = \frac{x - d'}{d - x} \qquad (2)$$

(When $f_s' = f_s$, the neutral axis falls midway between the two layers of steel.)

Effect of plastic flow

If plastic flow is disregarded, the requirement that steel and concrete at the same level possess equal deformations leads to the relation $f_s'/E_s = f_c'/E_c$, or $f_s' = nf_c'$, where f_c' is the stress in the concrete at the level of the compression steel, E_s the modulus of elasticity of steel, E_c the short-time modulus of elasticity of concrete and $n = E_s/E_c$.

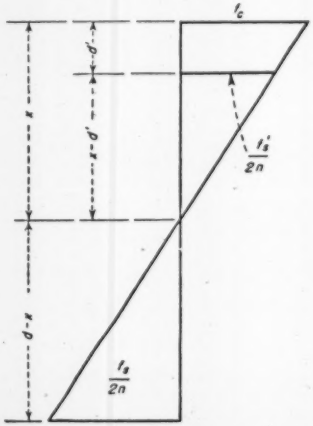


FIG. 1. STRESS DIAGRAM for concrete beam is assumed linear.

If now plastic flow causes f_c' to increase from nf_c' to $2nf_c'$, it follows—since the deformations of the two materials must remain equal—that the ratio E_s/E_c increases from n to $2n$. Therefore, since E_s remains constant, E_c decreases to one-half its short-time value.

The transformed-section method

A convenient procedure in the design and analysis of reinforced concrete beams is the transformation of the steel-concrete section into a section of one material possessing a single modulus of elasticity for the purpose of establishing a straight-line variation of the stresses on the cross-section. The basis for this change is a fundamental principle of mechanics: A plane section remains plane after bending and therefore a straight-line variation of stresses will exist on the cross section if the unit deformations at all points are multiplied by a constant E.

The steel-concrete section is changed either to an all-steel or, more commonly, to an all-concrete section to permit the use of a single E. The transformation is accomplished in such a manner that the deformations of the original and substitute materials and the forces acting on them remain unchanged.

If the compression steel is transformed into concrete, the equality of deformations requires that after plastic flow reduces the concrete modulus, $f_s'/E_s = f_c'/\frac{1}{2}E_c$ from which $f_s' = f_c'/2n$. It also follows that if the compression force on the steel is to remain unchanged, the compression steel area A_s' must be replaced by an equivalent concrete area $2n\,A_s'$, since $f_c'A_c' = 2nf_c'A_s'$.

Of the total equivalent concrete area, the portion A_s' fills the holes left by the compression steel, and the remainder $(2n - 1)\,A_s'$ is represented by wings outside the concrete section (Fig. 2).

The tension steel is transformed into concrete in the same manner. If f_s is the stress in the tension steel, the unit deformation of that steel is f_s/E_s. To maintain the straight-line variation of the stresses on the transformed section, the stress on the substitute tension concrete must be $(\frac{1}{2}E_c)\,(f_s/E_s)$

$= f_s/2n$, and to leave the total tensile force unchanged the substitute concrete area is made equal to $2nA_s$.

Illustration of method

The procedure used in finding the required areas of the tension and compression steel in a beam of limited size is demonstrated in Example 1 and the analysis of the design in Example 2.

Example 1. Find A_s and A'_s that would make the beam in Fig. 2 capable of resisting a moment of 1,100,000 in.-lb., when $f_c = 1,350$ psi., $f_s = 20,000$ psi., $f'_s = 16,000$ psi., and $n = 10$.

Solution: By Eq. (2):

$$\frac{16}{20} = \frac{x-2}{20-x}$$

from which x = 10 in.

By Eq. (1):

$$f_c = \frac{16,000}{2(10)} \times \frac{10-2}{10-2} = 1,000 \text{ psi}$$

Compression force on the concrete.

$$C_c = \tfrac{1}{2} f_c\, b\, x = \tfrac{1}{2} \times 1,000 \times 10 \times 10 = 50,000 \text{ lb.}$$

The moment of C_c about the tension steel is

$$C_c\left(d - \frac{x}{3}\right) = 50,000\left(20 - \frac{10}{3}\right) = 833,333 \text{ in-lb.}$$

The moment of C_s—the force on the compression wing area, $(2n-1)\,A'_s$—about the tension steel is

$$1,100,000 - 833,333 = 266,667 \text{ in-lb.}$$

$$C_s = \frac{266,667}{d-d'} = \frac{266,667}{18} = 14,815 \text{ lb.}$$

Unit stress on the compression wings equals

$$\frac{C_s}{(2n-1)A'_s} = \frac{f'_s}{2n}$$

that is,

$$\frac{14,815}{(20-1)A'_s} = \frac{16,000}{20}$$

from which $A'_s = 0.975$ sq. in.

The tension force, $T = C_c + C_s = 50,000 + 14,815 = 64,815$ lb. Therefore,

$$A_s = \frac{T}{f_s} = \frac{64,815}{20,000} = 3.241 \text{ sq. in.}$$

Example 2. Find the fiber stresses f_c, f_s and f'_s in the beam shown in Fig. 3, when the moment is 1,100,000 in-lb. and $n = 10$.

Solution: Transform the section into an all-concrete section by multiplying A'_s by $(2n-1)$ and A_s by $2n$.

The area of compression wings is

$$(20-1)\,0.975 = 18.525 \text{ sq. in.}$$

and the tension area is $20 \times 3.241 = 64.82$ sq. in.

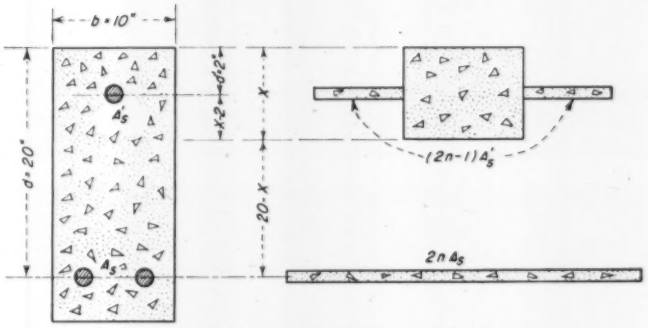


FIG. 2. BEAM DESIGNED in Example 1. Size given, steel to be computed.

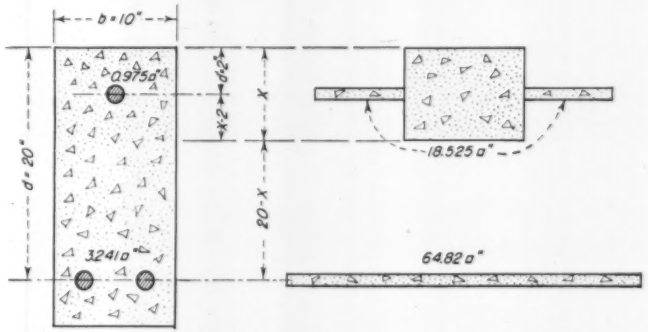


FIG. 3. BEAM ANALYZED in Example 2. Steel given, stresses to be found.

The position of the neutral axis is found from

$$10(x)\frac{x}{2} + 18.525(x-2) = 64.82(20-x)$$

from which x = 10 in.

Moment of inertia of the cross-section,

$$I = \frac{10(10)^3}{3} + 18.525(8)^2 + 64.82(10)^2 = 11,000 \text{ in.}^4$$

$$f_c = \frac{Mx}{I} = \frac{1,100,000 \times 10}{11,000} = 1,000 \text{ psi.}$$

$$\frac{f'_s}{2n} = \frac{M(x-2)}{I} = \frac{1,100,000 \times 8}{11,000} = 800 \text{ psi.}$$

$$f'_s = 20 \times 800 = 16,000 \text{ psi.}$$

$$\frac{f_s}{2n} = \frac{M(d-x)}{I} = \frac{1,100,000 \times 10}{11,000} = 1,000 \text{ psi.}$$

$$f_s = 20 \times 1,000 = 20,000 \text{ psi.}$$

Architects to study school building problems

Architects will take a critical look at schools and school building problems as the result of a statement of policy adopted by The American Institute of Architects. The aim is to permit members to share the benefits of new techniques and designs and endeavor to establish adequate codes.

The institute's committee on school buildings recommends that architects take an active part, not only in planning buildings, but also in the study of long-range school building programs. The department of education and research will undertake to obtain information on questions of fundamental concern to architects and educators and make digest available.

Serving on the Committee on School Buildings are: Chairman, Ernest J. Kump of San Francisco; A. Thomas Brown of Tucson, Ariz.; William Wayne Caudil of College Station, Tex.; Lawrence B. Perkins of Chicago; Howard Dwight Smith of Columbus, Ohio; John W. McLeod of Washington, D. C.; and Philip Will, Jr. of Chicago, an alternate. Walter A. Taylor of Washington is director of the institute's department of education and research.

NEW YORK JOINS THE LIST of states with legislation to control stream pollution. Gov. Thomas E. Dewey signs the law as Conservation Commissioner Duryea, Senator Hammond, Assemblyman Ostertag and Commissioner of Health Hilleboe lend moral support. (Acme Photo)

Dewey signs N. Y. State anti-pollution bill

Action climaxes 3-year study—Authority vested in 5-man board composed of heads of existing departments

Governor Dewey recently signed into law the bill which added New York to the small but growing list of states which have taken action to control stream pollution. This bill—resulting from three years of study—amends the public health law, the code of criminal procedure and the state finance law. It provides for the "control, prevention and abatement of pollution in the waters of the state" and makes appropriations therefor.

Affixing his signature to the long awaited measure, Gov. Dewey said, "A lot of work went into this . . . . this is a good bill." Assemblyman Ostertag introduced the bill and fostered the exhaustive research which went into its preparation.

Administrative machinery to promulgate and enforce the proposed control on pollution will come from existing state departments. A five-man board will be drawn from the departments of health, conservation, agriculture and markets, commerce and public works. In each case the commissioner or superintendent of the department will serve, either directly or through a designee he may appoint.

The board shall appoint an executive secretary to administer its pollution control activities. This administrator is required by the law to be a qualified sanitary engineer.

Studies leading to the bill's final preparation have disclosed the fact that over one billion gallons of untreated sewage are dumped daily into streams, lakes and marine waters of the state. It has been estimated that $336 million must be spent in pollution control by municipalities alone.

N. Y. professional society holds pollution symposium

New York State's professional engineers held their 22nd annual convention in New York City recently, taking water and beach pollution as subject for a two-day symposium. Throughout all sessions, speakers stressed civic and public interest in pollution abatement.

The chosen subject for discussion was particularly timely and was lent special significance by the signing of the state's anti-pollution law just one day preceding start of the NYSSPE session (see above).

Speakers on the panel for the first day's session discussed public interest in pollution abatement. Mr. Earl Devendorf, director of the bureau of environmental sanitation, New York State Department of Health, summed up the pollution puzzle as one "which will call for cooperation of professional engineers who can define the problem and develop the know-how to solve it."

Potomac group discusses soil erosion pollution

(*Continued from* page 11)

tenance of surrounding waters".

"It is understandable how the public has been just as slow in visualizing the new plan of attack against siltation and floods—inseparably tied in with the more popularly discussed question of water pollution . . . Happily, we now are tackling this problem at the very beginning—at the upper ends of the small tributary streams where silt and floodwaters start on their destructive journey down the truck stream".

"We should not be discouraged," continued Dr. Bennett, "because much progress has been made since 1933 when erosion-control measures were first initiated on a nation-wide scale. Today there are 2,100 voluntary soil-conservation districts in operation, embracing a total land area of 1,450,000,000 acres. Some one-billion acres of farmland have been brought under erosion control, and program planning is finished for another two billion acres."

General Motors wastes control

How one of the great industries of this country inaugurated a successful stream-pollution control program was outlined to the commission by L. A. Danse, supervisor of materials and processes of the General Motors Corp. Mr. Danse was recently appointed as a member of the new Water Pollution Control Advisory Board of the U. S. Public Health, Public Health Service.

In 1944, with the active war-production period coming to an end during which industry had no time to think of waste control, it became evident to a few people in General Motors that some steps should be taken. Quite aside from the "immorality" of discharging industrial wastes into streams, the handwriting was on the wall, said Mr. Danse—amended state pollution-control laws added considerable strength, putting regulatory agencies in position to act.

General Motors—with 105 plants and 380,000 employees—not only recognized its vulnerability to public opinion but realized that a vast educational program within its own ranks had to be promoted.

The balance of the three-day meeting, which was arranged by Edwin R. Cotton, engineer-director, and conducted by Raymond V. Long, chairman and commissioner of the Virginia department of conservation and development, was devoted to discussions of the technical, land and industrial committees of the commission.

Bitumuls

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MANY PRODUCTS
2. Sand Mix
with Bitumuls
Emulsified Asphalt

An Aleutian transport lands during runway construction. Bitumuls Sand-Mix although only partially cured — supports heavy loads.

"One-man" pavement construction in California with modern mixers. Note Bitumuls non-stop "refueling" from transport.

Florida builds low cost county roads by blade mixing existing sands with Bitumuls.

LOW COST PAVEMENTS
from Native Material

Here was an Army Assignment:

"Build 6 big Airports in the Aleutians — in cold, wet weather — and fast. **No** access roads, and sound aggregate not available."

BITUMULS was the **answer.** It mixed easily with the wet existing sand, and cured in record time — Vital factors in repulsing Jap bombers.

Here was a Navy Assignment:

"Pave 1,700,000 sq. yds. of parking area for carrier planes. No local crushed aggregate available. The cost must be **low.**"

BITUMULS was again the answer. Nine Million Gallons stabilized 350 Acres of local sand—6" Deep. Conventional pavement would have required over **600 trainloads** of imported aggregate—at about three times the cost.

State and County Highway Engineers in the "Sandy" South appreciate the stability and low cost of **BITUMULS SAND MIX PAVEMENT.** In the U. S., there are over 25 million sq. yds. of this type of pavement in use. More is being constructed every year—the reasons:

1—Very Low Cost
2—Use of Existing Road Material
3—Ease of Construction
4—Trouble-Free Maintenance

Ask for our BITUMULS BOOKLETS. They are factual, illustrated, and helpful — a valuable addition to your engineering library.

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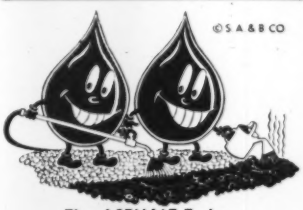
- Bitumuls for Maintenance . . . . . ☐
- Bitumuls Sand-Mix . . . . . ☐
- Bitumuls Handbook . . . . . ☐
- Hydropel—Admix for concrete . . . ☐
- Tennis Courts—Laykold & Grasstex . . ☒
- Fibrecoat—roof and metal coating . . ☐



The ASPHALT Twins

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AMERICAN BITUMULS COMPANY
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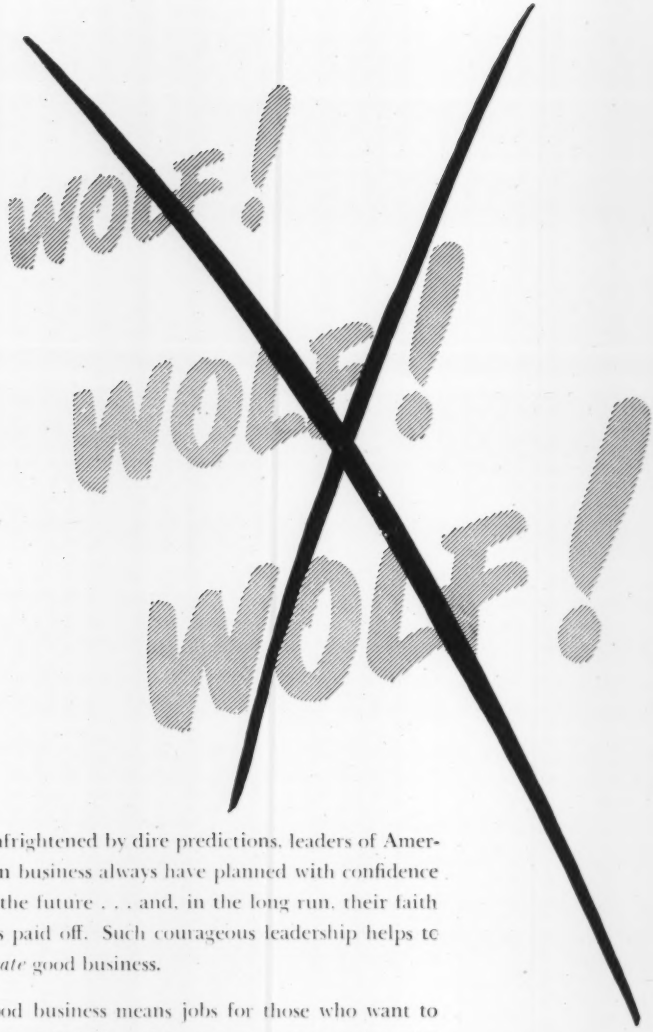
Columbus 15, O. • St. Louis 17, Mo. • Baton Rouge 2, La.
E. Providence 14, R. I. • San Juan 23, Puerto Rico



Unfrightened by dire predictions, leaders of American business always have planned with confidence in the future . . . and, in the long run, their faith has paid off. Such courageous leadership helps to *create* good business.

Good business means jobs for those who want to work. It's the best defense against the termites who are working to undermine the individual liberties Americans enjoy.

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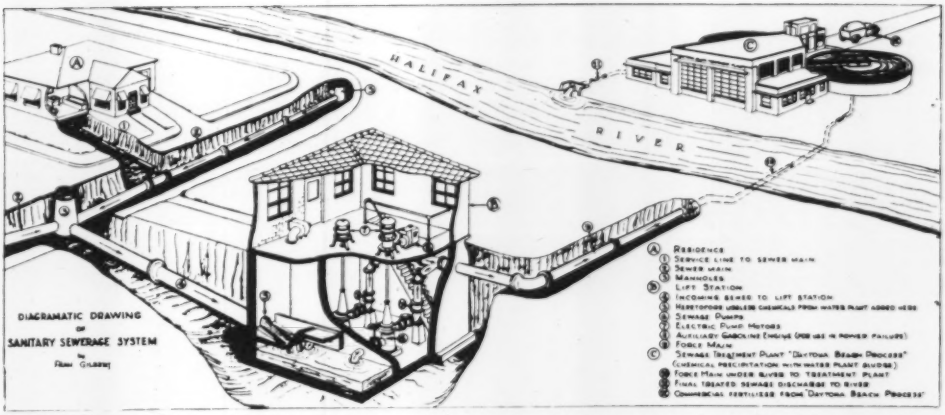
SKF INDUSTRIES, INC. PHILADELPHIA
BALL and ROLLER BEARINGS



BORROWING A LEAF from a publicist's handbook and drawing freely upon the consulting engineer's know-how, THE EVENING NEWS—a local newspaper—has shown taxpayers in Daytona Beach, Fla., what they bought when they approved funds for a $1,000,000 sewerage system and disposal plant now nearly completed.

"Selling" a new sewerage system

Through the good offices of their local newspaper, citizens of Daytona Beach, Fla., recently got a most unusual taxpayer's eye-view of exactly what they are buying in a million-dollar sewage disposal project now under way.

In a series of four articles, prepared independently of the city administration but with enthusiastic cooperation of consulting engineers and city officials, the DAYTONA BEACH EVENING NEWS undertook to explain to its readers in lay terms what the city is doing and why it is important.

What the newspaper did was this:

It sent a reporter, (Kirby Freeman) in the role of an intelligent but uninformed taxpayer, to interview engineers for the consulting firm of Russell and Axon, and then to go over the job and the reasons for it virtually inch-by-inch.

The reporter's first article started from scratch with an explanation of elementary principles of sewage disposal. He took the position that "conveying and processing of water-borne sewage from the bathroom to disposal plant is a subject important to the householder, but one rarely considered more than a routine process, especially when you are a comparative newcomer to the sea-level cities of Florida."

Engineers explained to the reporter —and he in turn to his readers—the important sewage fact of life for Florida seacoast cities: they are so near sea level that elaborate pumping systems must be utilized in order to carry sewage away from its source, and dispose of it as harmless effluent after it has been treated.

The articles take pains to explain that, although present population (1948 census estimate) is about 34,000, the system is being designed for a city with a 70,000 population and an outlying area of about 80,000 persons.

Stressing that the system has been so planned that city streets will never again need to be torn up, the articles start with the city's sewage history—dating back to about 1914, and ending with the startling statement that Daytona Beach is still one of the few places of major size where human waste is collected nightly by city-owned sewage tank trucks. This hold-over from older days will be largely eliminated when the new system begins operation.

A second article kicked off with a much-simplified diagram (reproduced here) showing progress of sewage from a residence through a pumping station and to the disposal plant. This article went into considerable detail as to why pumping stations are needed (gravity flow is not possible), how the stations are set up and equipped, and reasons for charges for connections to sewers.

The third in the series is devoted to the treatment plant (ENR March 24, p. 26), a unique design for a small city, and the final article details "odds and ends": size of trenches being dug, laying of 2,500 ft. of pipe under the Halifax River to bring sewage to the treatment plant, and kind of pipe.

Sewer service fees raise city revenues

Sewer rentals reported by 182 of 250 cities of more than 10,000 population totaled $25,900,000 last year, the International City Managers Assn. reported recently.

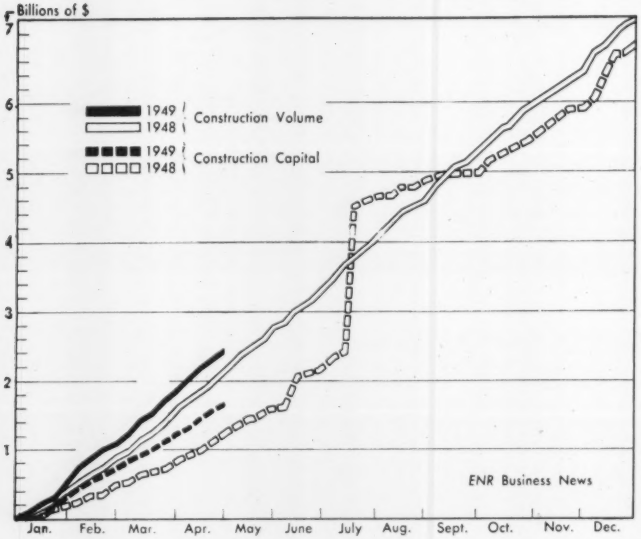
Average revenue collected by the four largest cities assessing sewer rentals—Buffalo, Cleveland, Detroit and Philadelphia—averaged $2,458,600 in 1948. This is a substantial increase over the comparative 1945 average of $1,607,000.

Cincinnati was the largest city to set up sewer-service charges in 1948. With the plan in effect only six months, sewer rentals brought in more than $857,000.

Louisville, which adopted sewer rentals in 1947, collected more than $1.2 million during its first year of use.

Cities charging sewer rentals show wide variations in extent to which these revenues are relied upon to defray sewerage costs. Earmarking of sewer-service revenues for construction of sewers or treatment plants or payment of current operating and maintenance expenses is not universal.

Most popular method of computing sewer charges are (1) on metered water consumption, (2) on a fixed percent of the water-bill, (3) by fixed uniform rates, (4) on the number of plumbing fixtures, and (5) on the number of sewer connections.



State and municipal awards up 41% but April total is lower than March

Heavy engineering contracts averaged $147 million weekly in April, the second highest award rate this year. That puts the 1949 weekly average at 18 percent above last year—and total contract awards at $2.5 billion. April weekly awards were one percent under the high March average, and five percent less than the weekly average in April 1948.

Private contract awards were at roughly the same rate as in March, $68,000,000 per week—but public awards dropped one percent from $79,900,000 weekly in March, to $78,900,000 a week in April.

State and municipal awards were $66,500,000 weekly in April—41 percent over March, and the top for any month so far this year. Federal awards dropped to $12,000,000 weekly, causing a dip in the public total. April weekly state and municipal awards are 23 percent above 1948, while federal awards are off 46 percent.

Largest April gains were shown by highways, sewerage, waterworks, and unclassified projects—all of which established 1949 records. Highways average $15,600,000 weekly in April, 55 percent over March, but 27 percent under April 1948. Sewerage awards averaged $6,300,000 per week, which is 73 percent over the March average, and seven percent below April 1948.

Waterworks at a contract award rate of $4,300,000 weekly made a postwar record—43 percent over March, and 35 percent higher than the April 1948 weekly average. Unclassified construction averaged $12,500,000 per week in April, 33 percent above the previous month, 62 percent over April 1948.

Commercial building had its second largest month of the year in April, with contracts amounting to $46,000,000 weekly. It was the only class of building to gain (13 percent) over March—with industrial contract awards dropping 29 percent to $16,000,000 weekly, and public building down one percent to $32,400,000 a week. Bridges gained five percent over the previous month, but only private bridge contracts were a 1949 record, at $100,000 per week.

Earthwork and drainage volume fell off in April by 59 percent, dropping to $8,700,000 from a record March average of $21,000,000 a week.

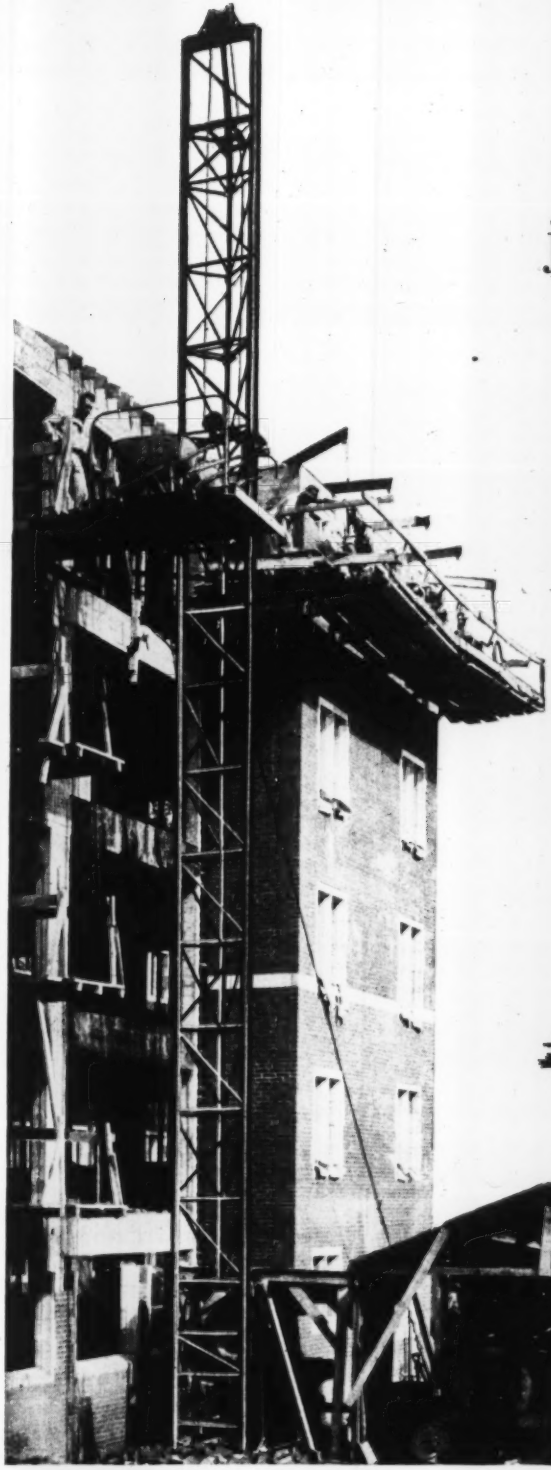
Capital for construction purposes amounted to $97,600,000 weekly in April, 3 percent less than the March average, but ten percent higher than the April 1948 rate. Of the total, 41 percent was subscribed to state and municipal construction projects, with the balance going to corporate ventures. Corporate borrowing so far this year is $844 million.

ENGINEERING CONSTRUCTION CONTRACTS REPORTED TO ENGINEERING NEWS-RECORD—APRIL, 1949

Engineering News-Record *reports continental U. S. Construction project of the following minimum costs—Waterworks, excavation, drainage and irrigation*, $28,000; *other public works* $50,000; *industrial buildings*, $68,000; *other buildings*, $250,000

Four Weeks—Thousands of Dollars (000 Omitted)

	April, 1949						Total U. S. Cumulative Four Months		% Change	Canada April '49
	New England	Middle Atlantic	South	Mid-West	West of Mississippi	Far West	U. S. 1949	U. S. 1948	'48–'49	
Public Works										
Waterworks	626	2,408	3,851	902	3,125	6,208	17,120	51,967	56,468	− 3	642
Sewerage	1,251	9,585	920	5,378	3,241	4,817	25,192	73,482	74,915	+ 4	1,163
Bridges	3,726	7,959	3,743	446	1,989	3,131	20,994	108,258	95,570	+ 19	280
Earthwork and waterways	784	9,182	4,180	673	17,286	2,634	34,739	203,128	211,180	+ 2	343
Streets and roads	2,358	13,806	10,033	9,961	15,502	10,856	62,516	189,689	285,060	− 30	4,621
Public buildings, residential	1,863	35,868	10,120	1,106	1,315	171	50,443	135,215	26,663	+437	1,268
Other public buildings	3,218	26,830	13,359	7,130	24,855	3,858	79,250	396,195	328,279	+ 28	8,532
Unclassified	459	5,318	1,400	889	9,422	7,930	25,418	82,401	77,196	+ 13	4,397
Total public	14,285	110,956	47,606	26,485	76,735	39,605	315,672	1,240,335	1,155,331	+ 14	21,246
Federal government (included in above classifications)	1,656	2,817	13,795	867	24,585	5,949	49,669	362,658	404,394	− 5	3,950
Private											
Bridges		340			61		401	1,075	400	+186	
Industrial buildings	13,072	14,407	6,014	8,383	14,822	7,035	63,733	339,650	326,368	+ 10	33,948
Com'l. buildings, residential	1,280	60,780	26,056	10,905	28,616	29,135	147,772	579,043	482,683	+ 27	7,954
Other commercial buildings	1,463	12,957	8,636	5,938	5,533	3,067	37,574	196,312	152,504	+ 36	4,198
Unclassified	400	150	4,979	7,722	10,280	1,010	24,541	105,717	84,567	+ 32	2,015
Total private	16,215	88,614	45,685	32,948	59,312	31,247	274,021	1,221,797	1,046,522	+ 24	48,115
Total Engineering Construction:											
April, 1949—4 weeks	30,500	199,570	93,291	59,433	136,047	70,852	589,693				69,361
March, 1949—5 weeks	21,256	150,519	89,376	106,558	230,870	144,970	743,529				54,653
April, 1948—5 weeks	35,338	193,238	145,366	119,514	176,163	107,540	777,159				30,017
Four Months—1949	88,527	688,436	368,669	272,167	647,801	396,532		2,462,132			187,780
Four Months—1948	103,309	601,665	398,863	246,460	548,969	302,587			2,201,853		117,371
% Change '48 to '49	−9	+21	−2	+12	+25	+14				+ 18	+60



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'Can an ordinary wooden tower match this easy, cost-cutting assembly and fast operation? Consider the cost of labor and timbers . . . the never-ending job of keeping it in safe condition . . . the amount of lumber that's bound to be wasted. And don't forget that repeating this process on every job costs you that much more.

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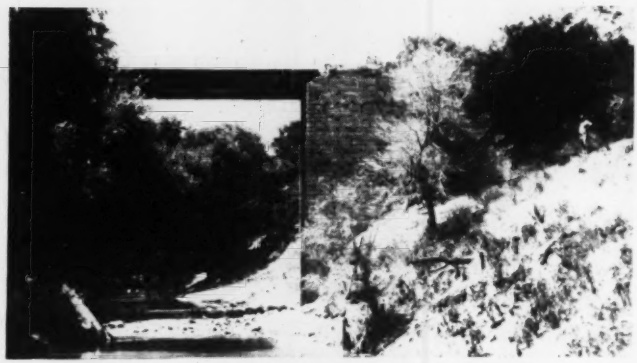


MEXICAN BRIDGE—New highway link between U. S. and northeastern Mexico, soon to be dedicated, includes this bridge over Pilon River in Tamaulipas.

Mexico—The 198-mile macadam highway between Victoria, capital city of the state of Tamaulipas and Matamoros, built by the Mexican government and completed in 1948, is scheduled for dedication this year. It opens up northeastern Mexico to automobile traffic from the United States for the first time.

Heretofore an old cart road from Victoria had given the only access from that city to the international border. Neither direct rail or air service exists between Victoria and the United States.

The new road, which was 20 years under construction, cost 30,000,000 pesos. At the time work was completed this was equivalent to $6,000,000.

Of three main rivers crossed, the Pilon, below Jimenez, is the only one bridged. At Rio Concho, below San Fernando, and at Rio Purificacion, above Padilla, there are ferries. Rio Corona, above Guemez, has a "dry crossing" consisting of a concrete culvert for the water to run through. In times of flood, the water rushes over the structure. Painted markings on the railing indicate when the dry crossing should be abandoned in favor of the ferry a few yards upstream.

The new highway opens a more than 6 million-acre cotton business to the outside world through the inland salt water port located at Brownsville, Tex.

Harbors

Italy—A new petroleum dock costing 1.2 billion lire (about $2,090,000) will be constructed in Naples with the use of Italian counterpart funds, the Economic Cooperation Administration announced recently.

The project is part of an overall plan for the improvement of the Port of Naples. Construction of what is expected to be the largest drydock in the Mediterranean already is under way there (ENR April 21, p. 32).

At full capacity, it is estimated the new oil dock will be capable of handling 4,000,000 tons a year, consisting of 2,000,000 tons of crude petroleum imports and 2,000,000 tons of refined export products. When completed, it will permit simultaneous berthing, with special unloading facilities, to five large tankers, ranging from 12,000 to 18,000 tons each. The dock will resemble a square, with a side-length of about 1,040 ft., and will consist of a 1,056-ft. jetty, a 1,052-ft. pier and eight berths.

Funds being spent at the Port of Naples were approved by the Italian government and ECA. They are part of 250 billion lire which Italy is depositing as counterpart for dollar grants being provided by ECA under the European Recovery Program. The money has been programmed for general reconstruction and agricultural improvement.

Colombia—Appropriations for harbor improvements at Buenaventura, Colombia's chief Pacific port, have been made by the Colombian government. Raymond Concrete Pile Co. of New York, awarded the contract earlier this year, expects to complete the $2,000,000 project by late summer.

Raymond will extend concrete wharves and build a warehouse. At right angles to the wharf, the contract calls for a 550-foot concrete bulkhead 40 ft. wide. Area behind the wharf and bulkhead will be filled with dredge material for storage space.

The work at present under construction will increase port facilities by 20 percent. The recent government ban on non-essential imports does not apply to this project, though private building is being hindered.

Mexico—The government will undertake a 4-year $4,300,000 harbor development program at Ensenada, Baja California, under direction of Guillermo Romero M., regional director of port works.

First step in the program will be a $43,000 breakwater. The present pier will be repaired, four new piers erected, terminal facilities established and a large yacht club building is proposed.

Freight-carrying ships now must lighter cargo ashore. Growth of the town and its fisheries, wine industry and tributary agricultural development dictated the harbor improvement.

A highway extending southeast from Ensenada is under construction and eventually will extend to La Paz. First major objective of the road, however, is Santa Rosalia, a copper mining town on the Gulf of California. So far, the highway has been surfaced 85 mi. below Ensenada and graded 60 mi. farther.

Airports

Ethiopia—In order to fly mining equipment in, and mined platinum out, a new airport is being built in the Ethiopia bush country at Yubdo in the Western province of Wallega. Construction of the airport is under the supervision of Richard Geis, an American engineer.

The Ethiopian government, which controls the Yubdo area mines under a complete monopoly, has not revealed production figures for some years. The airport construction, however, is interpreted in Ethiopian engineering circles as an indication that a production step-up is planned.

The Italians carried on a considerable number of mineral surveys, and worked the platinum mines quite extensively, during the period of Mussolini occupation.

Transport

Venezuela—Construction of a highways network at a cost of $6,000,000 has been inaugurated in Estado Sucre, located in eastern Venezuela.

Equipos, S. A., one of the largest road construction firms in the country,

has been given the contract which calls for construction of 300 miles of asphalt-paved roads, 22 bridges and numerous culverts.

The highway network will connect Cumana, state capital, with Carupano, the second town in size and population in the state. It will also connect Cumana with other cities in the state, the borders of neighboring states and the oil fields of eastern Venezuela.

India — The remote, independent Himalayan kingdom of Nepal is moving to end its lack of communication with the outside world which forces visitors and commercial traffic to come and go on foot or horseback.

At the request of the Nepalese government an Indian engineer has completed a preliminary survey for a motor road from Khatmandu, the capital. It would follow the course of the Bagmati River for about 60 miles down to the Indian province of Bihar. Estimated cost of this road is $1,200,000. Meanwhile, work also is starting on an airstrip at Khatmandu.

Brazil—Government-owned Central do Brasil Railway has extended its electrification 65 miles west of Rio de Janeiro on the route to Sao Paulo. Fifteen tunnels had to be enlarged to permit passage of the electric locomotives. Trains are expected to climb the Serra do Mar mountain range at 30 miles per hour, compared with about 13 miles per hour by steam traction.

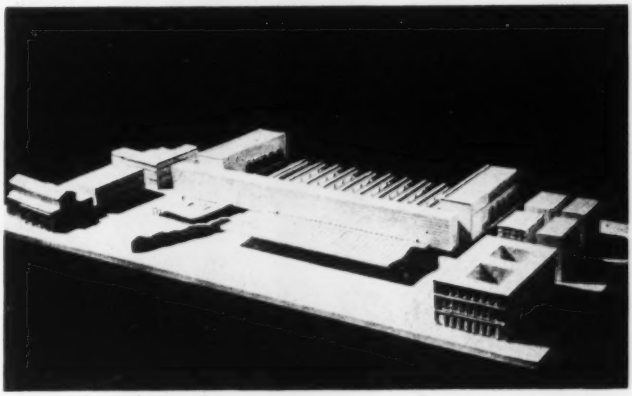
Meanwhile, a third rail is to be laid on the Noroeste do Brasil Railway between Bauru, in the state of Sao Paulo, and Curuca, state of Bahia, permitting broad-gage cars of the Paulista railway to use the line.

The Paulista is one of Brazil's few prosperous railways.

Brazil is about ready to take over the British-owned Leopoldina Railway. The company, founded in 1871, has 1,873 miles of track, most of it on three trunk lines linking Rio de Janeiro with Vitoria, in the state of Espiritu Santo.

Negotiations for the transfer of the railway to the Brazilian government have been under way in London and Rio for months, but there has been no announcement of terms.

Turkey—Three basic recovery projects in Turkey have been approved by the Economic Cooperation Administration and the Turkish government. The projects, involving $25,800,000 of ECA funds, are for highway construction, development of Zonguldak (the major Turkish coal field), and rehabilitation of the port of Zonguldak on the Black Sea.



ROME'S RAIL TERMINAL—By 1950 construction should be completed on this new central railroad station in Rome. As shown in the model, the $38,000,000 terminal will have 27 tracks, a six-story office building, and adequate bus and auto parking facilities. Construction is under way on one wing of the office structure shown at the extreme right of the work-site scene above. (Wide World Photo)

Russell H. Dorr, chief of the ECA mission to Turkey, said that the authorization is of vital importance.

Zonguldak—the most important coal area in the country—runs about 90 miles along the coast. The port of Zonguldak is about 150 miles east of Istanbul. To Turkey, Mr. Dorr said, the field and the port represent the keystone in the country's industrial arch.

ECA found that the highway program is essential to Turkish economy, particularly with respect to agricultural products and mineral ores. No general program for economic recovery or development can succeed, ECA reported, unless Turkey's road system is greatly improved.

Immediately approved for the highway program is $5,000,000 of ECA funds. Of this sum, the two largest items will take $949,000 for construction equipment and $1,900,000 for motor vehicle parts, accessories, trucks and service equipment.

The $5,000,000 highway fund covers work for the second and third quarters of 1949 on an improvement program found to be technically sound by the U. S. Public Roads Administration. The project will be executed by the American highway mission; it is expected to be 20 percent complete this year.

France — An agreement has been reached with Italy and Switzerland to split three ways the cost of a $20,000,000 tunnel under 15,782-ft. Mount Blanc. This tunnel would be 9 miles in length and would form a highway link in the routes connecting Paris, Rome and Geneva.

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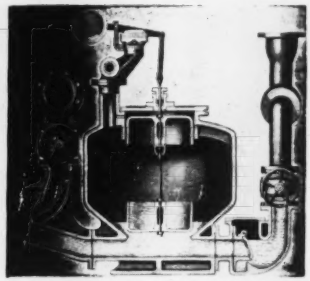

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MUNICIPAL AFFAIRS

Big Construction Programs

Typical of extensive municipal construction programs are those of New York City, Chicago, Baltimore, Md., Cleveland, Ohio, Richmond, Va., and Detroit, Mich.

New York's building projects are ahead of schedule. About $190,000,000 cost is involved in the Port Authority's new bus terminal, the U.N. secretariat building, the Brooklyn-Battery tunnel; and eastside housing.

Within a month municipal construction at a cost of more than $40,000,000 will be under way in Baltimore. Largest of the projects is the $20,000,000 installation of a 16-mile tunnel to tap a new water supply on the Patapsco River and deliver water to the Montebello filter station. Work on this is proceeding rapidly from both ends and at all shafts. The Lexington Market Authority has received a low bid of $2,563,000 for construction of a new market on the site of one recently destroyed by fire.

In Chicago pavement repair crews have launched an $11,000,000 program of patching and reconstructing rutted streets. Lloyd M. Johnson, commissioner of streets and electricity, announced the program was the largest in the city's history. Twenty-two miles of reconstruction is scheduled for arterial streets. This will cost $8,000,000. The other $3,000,000 will be spent on patches and on curb and gutter repairs on primary and secondary streets.

In the meantime, the Chicago Park District plans expenditure of a $24,000,000 bond issue, voted in 1945, for the development of 29 new parks (many of which have some facilities ready now), land acquisition for 14 other park sites and improvement of facilities in present parks.

The city council of Cleveland is being asked to spend several million dollars for sewer and road improvements, traffic signals, garbage and rubbish collection trucks, and other items of municipal housekeeping. The biggest item is $1,000,000 for construction of the Kingsbury Run sewer, and $400,000 for other new sewers.

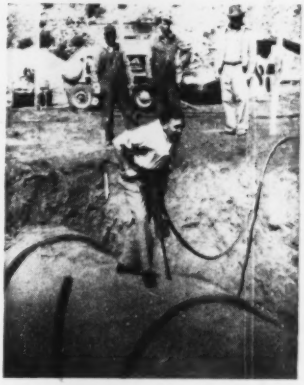
In Richmond a 5-year, $32,000,000 capital improvement program budget is now being worked out. The biggest project being considered is a $12,000,000 expressway or distribution highway. Under tentative plans the city would put up about one-fourth of the cost, the state one-fourth, and the PRA the remaining half.

Voters in Detroit have approved a 5-year school tax increase to pay for a $10,000,000-a-year school building program proposed by the school board. The first expenditures proposed will be for the building of four new elementary schools, additions to twelve others, and transfer of more than $2,000,000 to Wayne University. The common council has approved a new city budget which would add more than $4,000,000 in construction to earlier plans. Included was $700,000 for additions to the Receiving Hospital, $500,000 for street and alley paving, $210,000 for a health center, $323,000 for parks and recreation, $756,000 for four swimming pools, $295,000 for a downtown underground parking garage, and $135,000 for new welfare department facilities. In addition, the council approved a $2,000,000 bond issue for a civic center.

Aerial Mapping

Aerial photography is being used by the Key System Transit Lines, Oakland, Calif., to route its bus lines to follow population shifts and growth. Large-scale photos of 128 sq. mi., made by Clyde Sunderland, show every home and building in the 12 communities in which Key operates.

On one route to the airport there



FOR A BOOSTER PUMP—Final phase of a $6,000,000 water development program voted by Phoenix, Ariz., in 1946, was cutting the main 48-in. line from the Verde well field for installation of a $200,000 booster pumping station. H. W. Yost, above, of the engineering firm of Yost and Gardner handled the jackhammer for the first "bite." The pumping station, built by J. H. Welsh and Co., of Phoenix, will increase the pipe line's capacity from 36 to 46 mgd. The station will house two pumps powered by a 1,000-hp. motor.

were two miles barren of homes or businesses. A village had been built up nearby which was lacking in public transportation. Company engineers, therefore, changed the route to take in the new community and eliminated the two-mile dry run. The transit line, thereby, has more riders and the airport and community get better service.

Traffic Engineering Awards

Traffic engineering achievement in cities was recognized recently by the Institute of Traffic Engineers, sponsors of a special annual award. Participating were 570 cities. Winners for 1948 are:

Group I (500,000 pop. and over)
First: Cleveland, Ohio
Second (tie): Detroit, Mich. and Milwaukee, Wis.
Group II (200,000-500,000 pop.)
First: Dallas, Tex.
Second: Rochester, N. Y.
Group III (100,000-200,000 pop.)
First: Dallas, Tex.
Second: Rochester, N. Y.
Group III (100,000-200,000 pop.)
First: South Bend, Ind.
Second: Hartford, Conn.
Group IV (50,000-100,000 pop.)
First: Evanston, Ill.
Second: Fresno, Calif.
Group V (25,000-50,000 pop.)
First: Belmont, Mass.
Second: Arlington, Mass.
Group VI (10,000-25,000 pop.)
First: Wilmette, Ill.
Second: Albert Lea, Minn.

Other Traffic matters

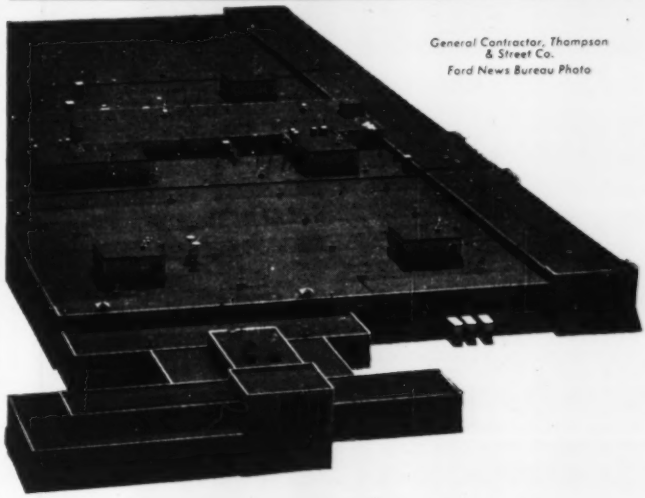
The major problem considered at the recent Oklahoma City meeting of the National Citizens Conference on Community Planning was traffic tie-ups downtown. Maj. Gen Philip B. Fleming, federal works administrator, predicted a 10,000,000-increase in the number of automobiles in the next 10 years.

"Unless we take prompt action to provide adequate highway facilities for congested urban areas, this hardening of traffic arteries will paralyze them completely," he declared.

Montreal, Que., has plans for a street widening program to cost $6,000,000.

Cleveland, Ohio, is preparing to spend about $3,000,000 for downtown parking space for 10,000 cars.

The parking authority of Syracuse, N. Y., has decided to develop two municipally-operated downtown parking facilities—one on the east side and one on the west.



General Contractor, Thompson & Street Co.
Ford News Bureau Photo

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The Ohio House has passed and sent to the Senate a bill revamping the off-street parking law enacted two years ago so municipalities may take full advantage of it without penalizing themselves. The new measure removes the two-year time limit against cities holding lands they may have acquired for parking purposes. Under the old law, no municipality was willing to acquire lands for that purpose and then be required to sell it within two years. Under the new law, they may hold the lands as long as they like and operate the parking lots themselves.

The Ohio State Parking Association has been organized by representatives of some 600 parking lots, and would aid cities in procuring property for off-street parking, but it is opposed to municipalities going into the parking business unless no independent operators are available.

Harbor Developments

The Port of Albany, N. Y., is seeking aid to deepen the Hudson River and bring more shipping to Albany. Michael J. Powers, secretary of the port commission, says the deepening would cost $10,000,000 or more. Between Albany and New York the river is too shallow in spots for large modern freighters. Albany at the head of navigation would do a lot more business if the river were deepened to accommodate larger ships.

A bid of just over $2,000,000 was the lowest of five for construction of a new pier—No. 3—in Halifax, N. S. A concrete structure 750 ft. long and 250 ft. wide, with 115,000 sq. ft. of floor space, it will replace an old wooden landing.

The Alabama State Planning Board, at the request of the local chamber of commerce has ordered a survey of the proposed $50,000,000 harbor improvement project for Mobile. William Dobbins, state planning director, said the project was suggested to encourage industrial development of the Mobile area and predicted the benefits to be gained from such a project would exceed the cost. The project being considered calls for creation of an eight-mile-long fresh water lake curving southward toward the Cochrane Bridge Causeway.

Dobbins said some 6000 acres would be reclaimed along the causeway with soil dredged from the lake. This would be used as sites for new industries and protected dock facilities.

This reclaimed land, he pointed out, if offered for industrial sites could command prices up to $5000 an acre. This alone, he said, could mean $30,000,000 return on the investment.

Airport Developments

New York City and California—both with major programs—topped municipal airport news.

The Port of New York Authority completed negotiations to buy the 500-acre Teterboro Airport in Bergen County, N. J., for $3,015,000. This will permit planned regional development of a system of major airports, to include authority-operated LaGuardia, New York International and Newark airports.

Opened in 1917, Teterboro Airport is one of the busiest air cargo terminals in the country. During 1948 about 8,300,000 lb. of air cargo were handled by the numerous nonscheduled and charter airlines using the base. Measured by plane movements, Teterboro traffic is heavier than at LaGuardia, averaging last year 513 movements per day. Only thirty minutes from Times Square, Teterboro has three 100-ft.-wide runways, two of which are 4,500 ft. long and the third runway is 3,000 ft. long.

The California Aeronautics Commission announced that its engineering staff is available to publicly-owned airports for consultation and surveys on maintenance problems. Information will be provided and corrective measures outlined. Runways will be checked for surfacing, ravelling, breaking of edges, failure of sub-grade, need for cleaning concrete joints and placing of asphalt filler, need for seal coat, adequate markings, and drainage. Airport buildings will be observed for indication of stress in structural members, foundation settlement and termites, and as to conditions of roofing. Water tanks will be inspected for cleanliness and sewage disposal for its adequacy. Conditions of fences, access roads, parking areas and general land use will also be checked.

This service will be free unless a special project requiring considerable time is involved, when nominal fees will be charged.

The Airport Commission of Omaha, Neb., is planning to ask for bids on approximately $1,100,000 of airfield improvements some time this month. These consist of completion of the drainage system, construction of extensions to the N-S runway and paved taxi strips. When completed, the Omaha airport will be rated Class 5 according to CAA standards and this will permit the scheduled operation of aircraft of the size of the DC-6 airliner.

The improvements are urgently needed to provide adequate facilities for airlines and private operators based at Omaha. It is expected that the work will be completed during the present construction year.

Kirkham Engineering Co. of Omaha is the consulting engineer to the Omaha Airport Commission for the proposed work as well as for the new 7,000 ft long NW-SE concrete runway, now under construction at a cost of about $840,000. It is expected that this runway will be completed and all ready for operation by next July 1.

Profitable Auditoriums

According to latest annual reports by the Public Administration Clearing House, net profits of some of the leading municipally-owned auditoriums were as follows:

Milwaukee, Wis.	$116,450
Cleveland, Ohio	88,596
St. Louis, Mo.	46,000
Seattle, Wash.	42,406
Grand Rapids, Mich.	17,133
Pasadena, Calif.	17,060
Buffalo, N. Y.	10,862

Other cities that made profits from their auditoriums were Topeka, Kan.; Portland, Ore.; Minneapolis, Minn.; and Birmingham, Ala. However, some cities showed losses on their auditorium operations—among them Atlanta, Ga.; Kansas City, Mo.; Pueblo, Colo.; and Long Beach and Oakland, Calif.

Low-rent Housing Needs

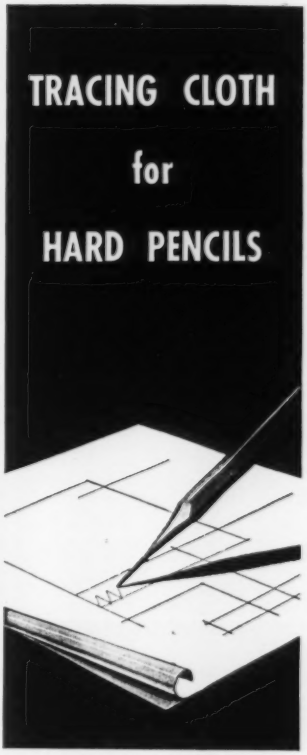
Low-rental and low-priced housing needs were highlighted in recent housing surveys in five cities, according to the National Association of Housing Officials.

Pittsburgh and Allegheny County, Pa., were short an estimated 51,000 housing units as of January, 1949, the survey showed.

In Benton Harbor, Mich., a survey of veterans' housing conditions showed that an estimated 300 new housing units were needed. Some 44,000 families in Seattle, Wash.—about 22 per cent of those in the area—will be in the market for another place to live during the next three years.

Families with incomes in the lowest 20 percent at Houston, Tex., earn $2,455 a year or less, and can pay an average monthly rent of only $41, including utilities, a public housing market survey showed. Few standard private units are available in the area for less than $70 a month, including utilities.

With an estimated population of 101,500, greater Kalamazoo, Mich., needs 5,000 new dwelling units immediately. To remove the backlog, provide for new families, and establish a normal supply, homes must be built at the rate of 1,250 a year until 1960, the survey estimated.



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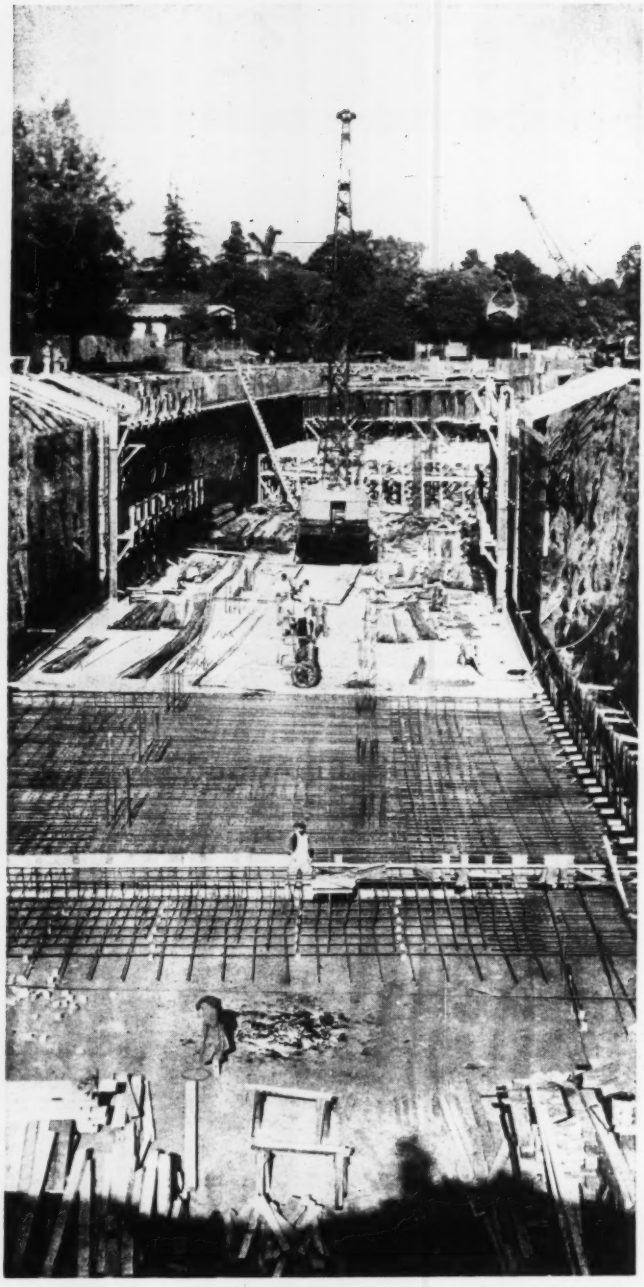


DUE TO THE DIFFICULTY of acquiring an adequate site at a high elevation, Santa Monica, Calif. is building a 5 mg. reservoir underneath an extra-wide city street.

The reservoir is 660 ft. long and has a 50x29 ft. section. It will be completely enclosed in reinforced concrete and covered over with a 4-ft. earth blanket before the street is repaved.

The $557,536 reservoir is one of two with similar capacity now being built in view of an anticipated population of 125,000 by 1950. A total storage of 10 mg. is projected, but space was found in an ideal hill-top situation for only 5 mg. To provide the full desired storage it was necessary to look for another site and the sub-boulevard location was chosen. This site had the advantage of high elevation and no site-acquisition cost.

The boulevard became available when an electric railway company dropped its franchise. The railway had a 50-ft. right-of-way between two 40-ft. streets. Elimination of the tracks resulted in a 130-ft.-wide street well suited for reservoir use, and since the boulevard continues for several blocks at approximately the same elevation, additional storage space can be added later.

Both new reservoirs are located at similar elevations near the highest point in the city; can be filled simultaneously, and water will flow from both into the city's system by gravity flow. A pumped pressure system is used to serve the high area adjacent to the reservoirs. The new facilities will more than double the city's present 9,443,350 gal. storage capacity and will make possible the use of pressures up to specifications of the Board of Fire Underwriters. Water will come from the Metropolitan Water District of Southern California system through a new mile-long, 27-in. concrete and steel pipe that acts as both intake and outlet.

The under-street reservoir is a reinforced concrete box with a space 660x50x29 ft. available for water storage.

A 5 MG. RESERVOIR goes into place under an extra-wide street in Santa Monica, Calif., near the highest elevation in town. The reservoir will be completely enclosed in reinforced concrete and covered with 4 ft. of backfill.

The 660 ft. length of the reservoir conforms in shape to the boulevard's 1900 ft. radius curve.

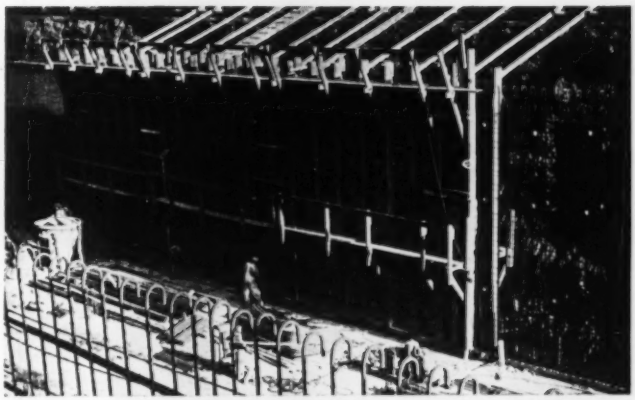
The top slab, supported by 64 columns, is 11 in. thick and has been tested to 800 psf. A fill of 3 to 4½ ft. will separate the reservoir from the street. The roof has a slight slope for drainage.

Bottom and wall slabs were designed as rigid frames and are 2 ft. thick, poured monolithically from bottom slab to top. Walls were poured 60 ft. at a time, both walls in the same pour. This permitted one continuous copper water seal to be used between the 60 ft. sections.

Three reusable forms, each 20 ft. long and weighing 4½ tons, were used for each wall pour. Form panels were constructed from 2 in. tongue-and-groove wood sheathing with 2x12 in. vertical walers.

The concrete contained admixture (Plastiment) that is claimed to have a densifying effect. One half pound of admixture was added for each sack of cement. The concrete was allowed to set 72 hours after wall pours and nine days after roof pours before the forms were stripped. A black curing compound was then sprayed on the concrete surface.

The 27-in. pipeline bringing water to the reservoir terminates in a valve and pump house just outside the reservoir near its center. Water is pumped into the reservoir through 16-in. pipes that extend 284 ft. and 221 ft. from the pump house. This permits withdrawal by gravity flow to be so scheduled that effective circulation of the water is obtained and there is no dead-water storage. The pumphouse also serves to pump water into pressure mains.



REUSABLE WOODEN FORMS in three 20-ft. panels were used for 60 ft. of wall. Total reservoir length is 660 ft. and the walls are 29 ft. deep.

The reservoir slopes 2 ft. from each end toward the center where a deep cleaning trench is located. This trench has a fall of 5½ ft. in the 50-ft. reservoir width.

Work is scheduled to be completed by the end of June 1949. The 40-ft. wide streets on each side of the 50-ft. wide center strip will be repaved and the center strip directly above the reservoir will be landscaped.

Contractors on the work were W. E. Kier Construction Co., for whom J. C. Moore was general superintendent. Consulting engineers were Koebig & Koebig, Los Angeles.

The water system planning is under the general direction of Maurice King, Santa Monica city engineer, and his assistant, Omer Brodie.

Three states to test rubber in pavements

Three state highway departments have undertaken to make test installations of bituminous pavements in which rubber powder is mixed with the bituminous surfacing. The test sections are to be built in Texas, Virginia and Ohio. Work on the test section in Texas will start soon near San Antonio.

Natural rubber at a rate of about one-third of a ton of rubber powder per mile of surfacing is added to the asphalt binder.

Between 1935 and 1940 some 30 test sections of pavement were built in the Netherlands using additions of from 5 to 10 percent of powdered rubber in the bitumen. These surfaces are said to have stood up much better under traffic than adjoining areas having no rubber admixture.

Last summer in Akron, Ohio, rubber was added to part of the bituminous material used in resurfacing about a half-mile of pavement on Exchange St., alternate sections being installed for comparison.

The tests in Texas, Virginia and Ohio are sponsored by the Rubber Development Bureau, Washington, D. C., a subsidiary of the British Rubber Development Board, which is seeking to expand the market for natural rubber. Rubber powder for the test sections is being supplied by the Dutch Rubber Foundation, which has sent its director general, R. Houwink, to this country to assist in making the test installations.

Stream-clearing plan brings surprise revenue

Industrial treatment of wastes, required under Pennsylvania's Clean Streams program, has resulted in the reclamation by industry of valuable products formerly discharged as waste, the Sanitary Water Board said recently.

These double-barreled benefits are shown in many cases, according to records of the board. Some concerns have stated they are actually making a profit on the products they formerly discharged to the streams.

Army engineers test concrete placing method

A large-scale test of the strength and durability of concrete placed by the "Prepakt" process of the Prepakt Concrete Co., Cleveland, Ohio, has been undertaken by the Corps of Engineers at the Clinton, Miss., suboffice of the Vicksburg Waterways Experiment Station. Two test specimens have just been built there. One specimen being tested is an 85-cu. yd. section of a dam containing galleries and tunnels, and the other is a 15-cu. yd. model of a reinforced concrete bridge pier.

Under the Prepakt method the forms are filled with coarse aggregates, after which the remaining space is filled with a special form of grout, injected under pressure.

When forms have been stripped from the test specimens at Clinton they are to be examined to see how the grout has penetrated under the openings for galleries. Subsequently cores taken from the concrete will be subjected to strength and durability tests.

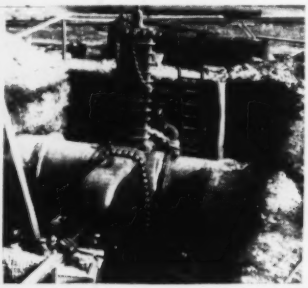
Gate Valve Inserted While Water Service Continues

Twice within the last year gate valves have been inserted under pressure in water mains as large as 48 in. in dia.—one at Philadelphia, Pa., and the other at Sparrows Point, Md.

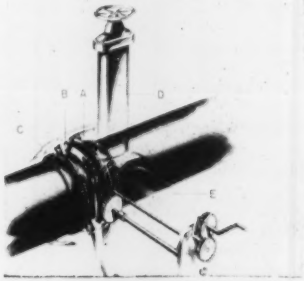
The advantages: Service is not interrupted; the main does not have to be de-watered; no pumping equipment need be transported; the pipe is not open to outside contamination; any kind of pipe can be worked on successfully.

The entire operation can be completed in a few days, following the steps shown in the nine photos (reading from left to right) on this page. A. P. Smith Mfg. Co., East Orange, N. J., photos.

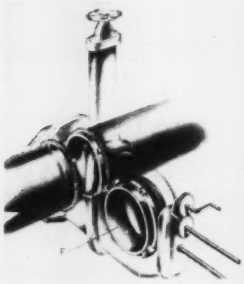
FIRST, pipe-cutting mechanism and valve seat rings are assembled around main; an air motor driving the cutters.



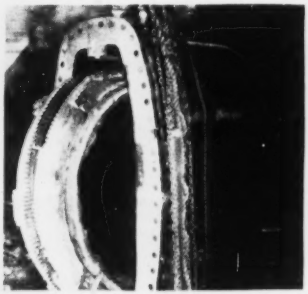
SECOND STEP is to attach an operating dome to the valve body, and attach pull rods to the cutting mechanism.



SCHEMATIC DRAWING shows: (A), valve seat rings (B); valve body (C); slide valve (D), and operating dome.

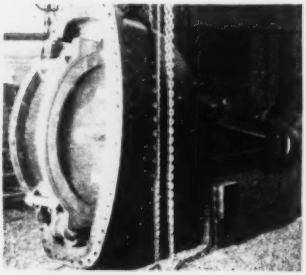


AFTER COMPLETING THE CUT, the cut-out section (F) is withdrawn into the operating dome for removal.

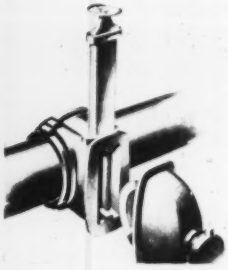


DETACHED DOME brings out with it the cut-out section. Temporary slide valve, (shown in third photo) closes off pipe.

CUT-OUT SECTION, with rings still mounted, is set aside preparatory to next step.



READY FOR INSERTION, in place of the cut-out section, is permanent valve bonnet and valve gate.



PERMANENT VALVE BONNET, complete with discs and operating mechanism, is ready to go into place.

JOB'S DONE as gate valve is pulled out and the opening sealed. Service has not been interrupted.

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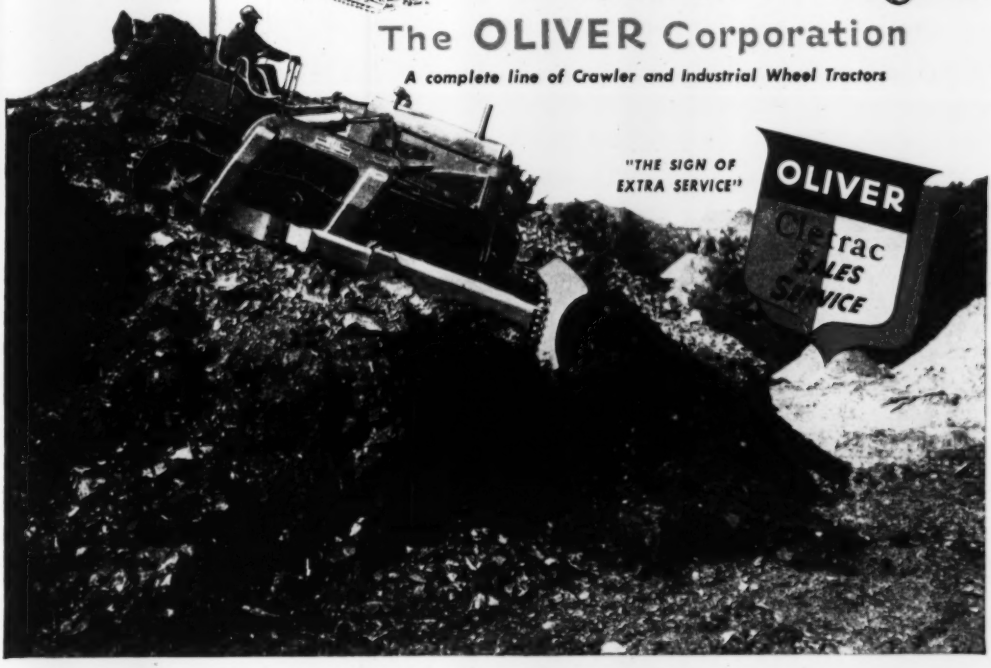


Ask DETROIT About

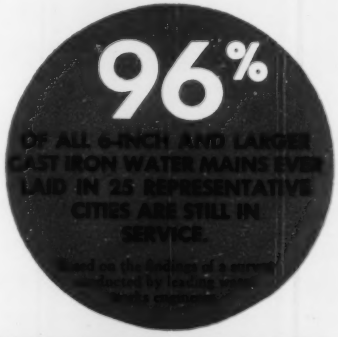
In 1854—ninety-five years ago—Detroit laid her first 6-inch cast iron pipe. Of all the 6-inch cast iron pipe laid from that date, 96.2% is still in service.

Fourteen years earlier, in 1840, Detroit laid her first 8-inch cast iron pipe and 97.9% of all the 8-inch cast iron pipe laid during the past 109 years is still in service. A portion of a 10-inch cast iron transmission line laid in 1838 is still in service.

Detroit is one of the cities included in the survey of "Survival and Retirement Experience with Water Works Facilities," including cast iron water mains, conducted under the auspices of the American Water Works Association, the New England Water Works Association and the Institute of Water Supply Utilities. The recently published report of the findings of the survey shows that 96% of all 6-inch and larger cast iron water mains ever laid in 25 representative cities are still in service.

Detroit's experience with cast iron water mains, therefore, while remarkable, is not exceptional.

We shall be glad to send on request a copy of our brochure "Survival and Retirement Experience with Cast Iron Water Mains," reprinted by permission. Address Cast Iron Pipe Research Association, Thomas F. Wolfe, Engineer, 122 South Michigan Avenue, Chicago 3, Illinois.



CAST IRON PIPE

Cast Iron Pipe!

SERVES FOR CENTURIES

ENGINEERING SCHOOLS

Practical Courses

A 72-week night course in road engineering is being offered by the University of Kentucky in conjunction with the state highway department. About 200 employees in the nine highway districts have enrolled.

The second annual Pennsylvania sewage works school will be held at State College, Pa., June 13-17. Three courses will be offered: "C" (elementary), "B" (intermediate), and "A" (advanced). Industrial waste treatment will keynote the "A" course.

Participating instructors are from the staff of the Pennsylvania State College, the Pennsylvania Department of Health, consulting engineers, equipment manufacturers, and others. Arrangements have been made for providing meals and housing for registrants. Room and board for the period will be $25. Reservations should be made with H. G. Pyle, Extension Services, State College, Pa., accompanied by a deposit of $10 (part of the $20 registration fee).

Two short courses for water plant and sewage treatment plant workers were held at the University of Illinois March 21-26 and March 28-April 1 under the joint sponsorship of the Illinois State Department of Health, the Illinois State Sanitary Water Board, the civil engineering department of the University of Illinois, and the extension division of the university.

More Scholarships

A memorial engineering scholarship is being established at the University of New Mexico in honor of G. Perry Steen, a professor in the College of Engineering at the university, who died recently. He was president of the New Mexico Society of Professional Engineers and a graduate of the University of Missouri. He had taught at the Texas School of Mines before going to the University of New Mexico in 1943.

Ernest B. Ellis, a road contractor of Fayette County, Ky., who died some time ago, provided for a perpetual scholarship fund of about $50,000 to aid engineering students at the University of Kentucky.

Ten graduate fellowships, each valued at $1,400, for the study of traffic engineering in 1949-1950 have been announced by Prof. Theodore M. Matson, director of the Bureau of Highway Traffic at Yale University. Nine have been made possible by a grant from the Automotive Safety Foundation, while the tenth was established by the American Transit Association. The fellowships provide for a full year of graduate study in traffic engineering and in individual transportation research at Yale. The awards are open to men who have been granted a degree from an accredited college in some branch of engineering, preference to be given to those now employed in street and highway engineering.

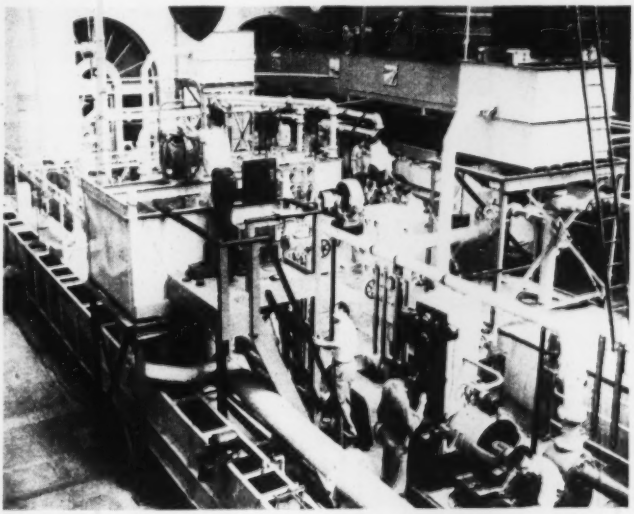
Educational Notes

The college of engineering at the University of Notre Dame, Karl E. Schoenherr, dean, has been accepted for membership in the Engineering Research Council of the American Society for Engineering. Currently some 60 projects are under investigation.

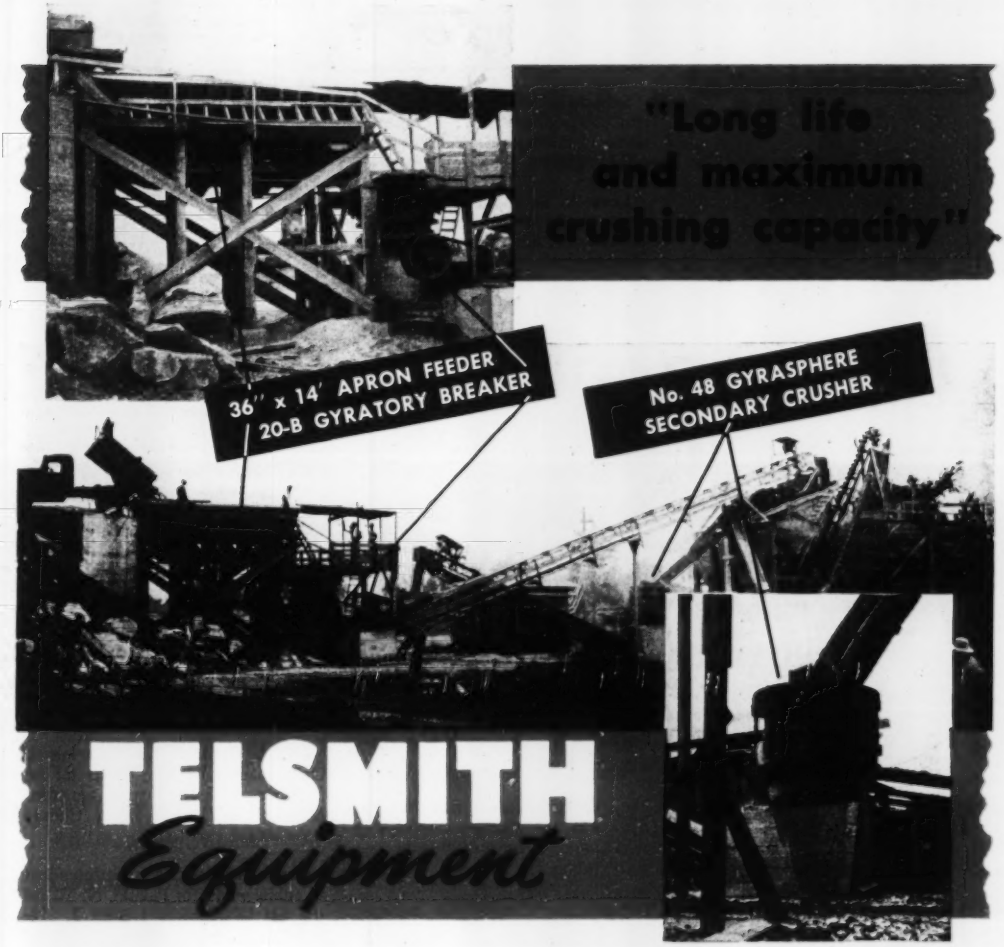
The National Students Association summer study project for foreign students has distributed 7,500 application blanks overseas, and it is expected that from that number, about 400 students will be chosen of which 80 students, representing 27 nations, will be assigned to the Massachusetts Institute of Technology. Free tuition will be provided, and housing will be donated by various student clubs and organizations.

Work on the construction of a $1,245,151 engineering laboratories building at North Carolina State College, Raleigh, N. C., was launched March 28. The building is to be completed by June, 1950. The new building will contain space and facilities for the department of engineering research, administrative offices of the school of engineering, and for other engineering departments and divisions. There also will be 12 classrooms and two large lecture and demonstration rooms, with seating arrangements for 150 persons in one room and 350 in the other. The three-story structure will be E-shaped and of brick construction. The J. A. Jones Construction Co. of Charlotte, N. C., has the general contract at $948,700.

The Illinois conference of highway engineering, held at the University of Illinois recently, was the 35th conference of that nature and attracted 250 engineers from Illinois and adjoining states. It was sponsored by the department of civil engineering, University of Illinois; the Illinois State Division of Highways; and the Illinois Association of County superintendents.



FLUID MECHANICS WORK—This is a general view of the fluid mechanics laboratory of the University of California, at Berkeley, where the action of waves and surf is investigated by ingenious research methods. Here a technique has been developed and tested by which the size and arrival time of waves generated by distant storms can be predicted. The findings are important for harbor engineers and others who watch local weather reports closely in planning their operations, but who may not be aware of the approach of waves from ocean storms thousands of miles away. At lower left is a 60-ft. water channel (one half glass panels) for close observation of wave formation and action. Prof. Joe W. Johnson is in charge of the laboratory. (Wide World photo)



● The McLellan Stone Co. has a new quarry plant near Bowling Green, Ky. In speaking of his Telsmith equipment, Mr. George McLellan says:

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OBITUARY

John Middleton, 66, a retired construction engineer, died April 16 at his home in Albany, N. Y. He retired eight years ago.

Leon A. Schandler, retired U. S. engineer who spent many years in the Canal Zone, died in Daytona Beach, Fla., April 17.

Anning F. Surre, 45, of Maywood, N. J., chief engineer and architect for the Intercontinental Hotel Corp., New York, died there April 19. He was graduated from Western Reserve University in 1922 and attended Case in Cleveland.

Stanley C. Miller, 59, with the Philadelphia office of the United States Army Engineers for over 30 years, died at Philadelphia recently.

John Harvey Gilmore, Jr., 24, assistant professor of engineering at Washington and Lee University, died April 21 in Roxbury, Mass. He held B.S. and M.S. degrees in engineering from Harvard, and joined the Washington and Lee faculty in 1947 after war service with the Navy.

Michael J. Daumen, 65, a leader in the construction industry in Buffalo, N. Y., for many years, died April 21. He had been erection superintendent for the R. S. McManus Steel Construction Co., Inc., of Buffalo since its founding 35 years ago.

Lester A. Wheaton, 55, president, Wheaton Construction Co. Ltd., Moncton, N. B., died April 19. He had carried out many important contracts in Canada, including the 7-year construction of the Ocean Terminals, Halifax, N. S.

Joe Kelly Morton, a civil engineer for the U. S. government, died at Lexington, Ky., April 20.

T. L. Rogers, 66, surveyor of Barren County, Ky., and formerly city engineer of Glasgow, died there April 20.

C. Whitman Cross, 94, the geologist who outlined the method used in correcting the serious slides in Culebra Cut on the Panama Canal, died April 20 in Rockville, Md. A graduate of Amherst College, for 45 years he was connected with the U. S. Geological Survey.

W. Scott Johnson, 52, director of the section of environmental sanitation, Division of Health of Missouri, died at Jefferson City recently. Mr. Johnson, who obtained degrees of B.S. in biology and in civil engineering at Harvard, was recently honored for his achievements during 25 years of public health engineering in Missouri.

Albert Carroll Wood, 75, a consulting engineer, died recently at Philadelphia, Pa. For 47 years he was engaged in the designing and construction of industrial and municipal electric plants. He was a graduate of the University of Arkansas.

Elmer B. Severs, 64, a power plant design engineer, died recently at Blooming Glen, Pa. He was associated with the United Engineers and Constructors, Inc., of Philadelphia. He had been associated with Day and Zimmerman Inc., E. I. du Pont de Nemours and Co. and the Lumis Co.

John E. Roberts, Jr., 45, a professional engineer, died March 21 at Philadelphia. He was a graduate of the University of Pennsylvania.

Lewis H. Rosenberry, 86, a construction engineer noted for his work in construction and design of cement plants throughout the United States, died March 17 at Easton, Pa.

Joseph W. Harper, 63, Napoleon, Ohio, road and bridge contractor for 25 years, retiring six years ago, died March 31. He was Henry County surveyor for two terms.

Frank Brundage, 69, superintendent of public works for Pulaski, N. Y., for the last 12 years, died April 2. He was named water board commissioner of Pulaski in 1931.

Charles D. Farmer, former equipment engineer with the North Carolina Highway Commission and organizer of its equipment division, died April 1 at Raleigh, N. C. He left the highway commission to organize the state highway patrol which he commanded for many years and for which at the time of his death he was serving in the capacity of chief communications officer.

Allen F. McLane, field engineer, Fabricated Steel Construction Division, Bethlehem Steel Co., died April 22, at Gloucester, Mass. Mr. McLane, a graduate in civil engineering from Tufts College, had been associated with the organization of McClintic-Marshall and Bethlehem since 1928. Prior to his illness he was in charge of planning the erection of the new Tacoma Narrows bridge.

It's EASIER to get Wayne Crane from Job to Job . . .

Says Operator "Bill" Nigro of Pittsburgh, Pa.

W. B. NIGRO

"Operation of the Wayne Crane is very simple, which makes it easy for all operators to handle. The machine is easy to get from job to job because it travels under its own power. I find the Wayne Crane a fast-operating machine, and it does our work at a low cost with little maintenance."

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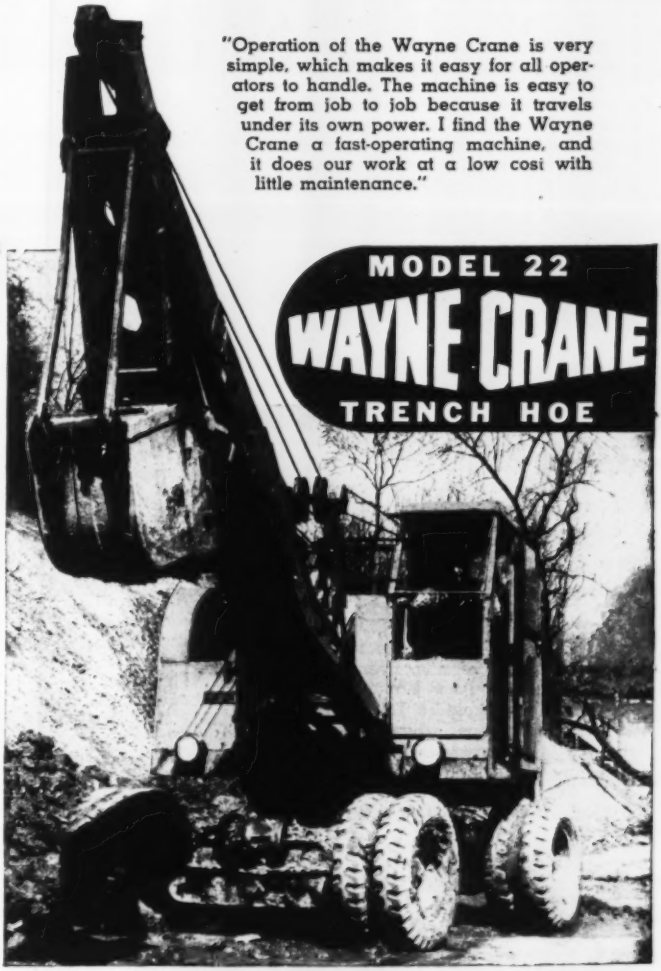

ILLUSTRATION: Operator "Bill" Nigro, of Pavia Construction Co., Pittsburgh, traveling to a new job.

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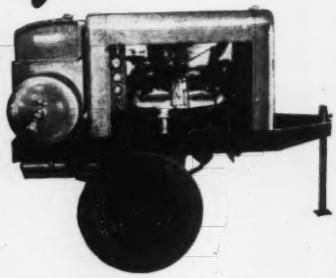

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Write for complete facts about the SMITH Model 250!

Smith **AIR COMPRESSORS**

GORDON SMITH & CO.

430 College St. Bowling Green, Ky.

Elections and Activities

Robert N. Marshall has been named president of the Winston-Salem, N. C., Engineers Club, succeeding Charles F. Vance. Other officers are: Harry F. Day, vice-president; Thomas F. Karnes, treasurer; and Ken L. Wommack, secretary.

H. E. Glenn has been elected president of the South Carolina section of the ASCE. A. T. Brown, was elected vice-president, and A. E. Johnson, secretary-treasurer.

H. Clay Moore has been elected president of the Georgia Engineering Society, succeeding George H. Bond. Burton J. Bell, first vice-president; Van Porter Enloe, second vice-president; George M. Normandy, secretary, and John L. Underwood, treasurer.

Charles Zimmerman was elected president of the Allied Construction Industries of Delaware, James Cullen, Sr., vice-president, and Arthur A. Carota treasurer. Francis E. B. McCann was re-elected executive vice-president.

The Arizona Society of Registered Professional Engineers has been organized at Phoenix with 80 charter members. Officers are: Walter H. Croft, president; William D. Williams, vice-president; Roger I. C. Manning, secretary-treasurer; Harold W. Yost, director at large, and Charles F. Willis, national director.

Russell F. Lewis, Rochester, was elected president of the N. Y. State Association of Highway Engineers. Other officers: M. Merrell Bailey, Hornell, vice-president; Edward F. McDonough, Albany, treasurer, and Milton H. Bingham, Albany, secretary.

Officers of Carolinas Branch AGC, are: E. D. Sloan, president—succeeds W. T. Potter, resigned; N. K. Dickerson, vice-president; C. P. Street, treasurer; and Robert Patton, executive-secretary; Directors; Robert Pinnix, William F. Bowe, Hal S. Crain, L. C. Merchant, E. G. Skinner and C. N. Whilden.

Jas. F. Wishart, Jr., is president of the Florida West Coast chapter AGC. Other officers: R. E. Secord, vice-president, J. L. Cone, secretary, and Albert H. Jones and E. M. Scott new directors.

Nine officers of the Society of Construction Superintendents, Inc., 14 W. 19th St., New York 11, N. Y. are President, Dave Feiler; vice-president, Henry Wunderlich; secretary, Sidney Millsten; sergeant at arms, William Perlman; trustees, A. B. Fleck, Geo. Martin, Ben Grene and Louis Sachs.

J. D. MacPherson, Montreal, has been elected Chairman of the Junior Section, Engineering Institute of Canada.

The Missouri Highway Engineers' Association has elected Harry E. Frech, district engineer for the Portland Cement Association in St. Louis, president. Vice presidents are F. E. Ross, E. Raymond Jackson, Fred D. Harris, E. S. Glenn, and M. E. Quinn. J. J. Corbett continues as secretary-treasurer.

Ralph C. Pybus, Commonwealth Construction Co. Ltd., Vancouver, B. C., has been elected president of the Building and Construction Industries Exchange of British Columbia. Other officers and directors are R. A. Hall and J. F. Sigurdson, vice-presidents; Fred W. Welsh, past president, and J. E. Amundson, M. L. Barr, C. C. Carter, A. S. Gentles, Walter Leek, L. G. Murray, A. J. Armstrong, W. G. Jenner, W. F. Foster, and J. H. McRae, directors.

Don E. Lillie, vice-president and sales manager for Yukon Equipment Co., Inc., of Seattle, Wash., has been elected president of the Associated Equipment Dealers of Seattle. Scott O. Simenstad, vice-president of Bow Lake Equipment Co., was re-elected vice-president, and H. J. Higman, secretary-treasurer of A. H. Cox & Co., secretary-treasurer.

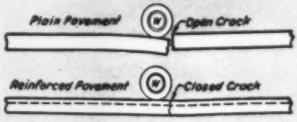
Alfred D. Cole of Hingham, Mass., has been elected president of the Home Building Association of Greater Boston, Mass.

George L. Wadsworth of Norfolk, Va., has been elected president of the Executive Secretaries' Council of Builders Exchanges, succeeding Dan H. Patrick, of Atlanta. Mrs. Mary L. McCall, of Knoxville, Tenn., was elected secretary-treasurer, succeeding Fred M. Fortes, of Orlando, Fla.

Officers of the American Concrete Pipe Association are: President, J. A. Dunn, Swampscott, Mass.; 1st vice-president, D. A. Dunkle, Los Angeles, Calif.; 2nd vice-president, E. H. Eby, Helena, Mont.; 3d vice-president, P. R. Hurst; secretary, G. B. Dunham; and treasurer, C. H. Bullen, Chicago, Ill.

For crack control on concrete highways

buy American Welded Wire Fabric



As the wheel load approaches an open crack in plain pavement, shown above, one slab end carries the entire load. As the wheel load approaches the closed crack in pavement reinforced with American Welded Wire Fabric, shown below, both slab ends, instead of one, carry the load, preventing damage to the slab and to the subgrade.

By imbedding American Welded Wire Fabric in concrete highway slabs, you can reduce the *rate* of cracking and control any cracks that do occur.

This closely spaced, well distributed network of high yield-point cold drawn steel wires holds crack edges interlocked, spreads wheel loads over both edges (as shown in the accompanying sketches) thus preventing further damage to the slab and to the subgrade.

Many years of satisfactory service in thousands of miles of highways have proved the structural superiority of concrete slabs reinforced with American Welded Wire Fabric. In experimental roads which have been tested to destruction, no other type of pavement material even approached the endurance records established by concrete slabs reinforced with U·S·S American Welded Wire Fabric.

Standard stock styles of American Welded Wire Fabric are designed to meet a wide variety of paving requirements. You can get specific information as to what style and size is best suited to your individual needs by getting in touch with our nearest sales office.

AMERICAN STEEL & WIRE COMPANY
GENERAL OFFICES: CLEVELAND, OHIO
COLUMBIA STEEL COMPANY, SAN FRANCISCO
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TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM
SOUTHERN DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

Every concrete paving job needs

AMERICAN WELDED WIRE FABRIC *reinforcement*

USS

UNITED STATES STEEL

7 Reasons WHY DUMPTOR Maintenance Cost Stays Low in Toughest Service

The hauling unit built by a shovel manufacturer for work with shovels.

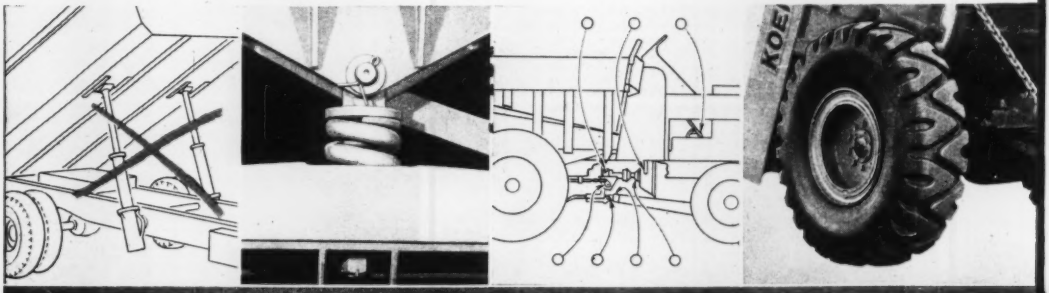
LESS TIME OFF . . . MORE TIME TO HAUL because:

1 No Body Hoist Maintenance. Dumptor has no body hoist. Gravity alone tips 6-yard body in one second in zero weather.

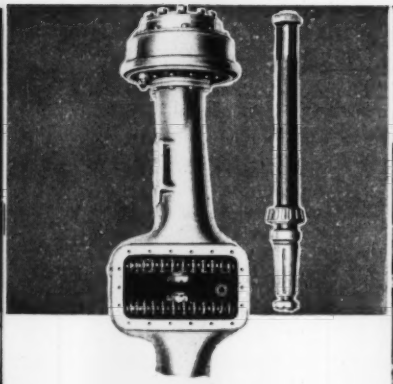
2 One Spring Only, on pivot-mounted front axle. No other springs on either axle. No spring maintenance problem.

3 Lubrication Chart shows just 7 daily lubrication points on Dumptor chassis. Daily lubrication wastes no haul-time.

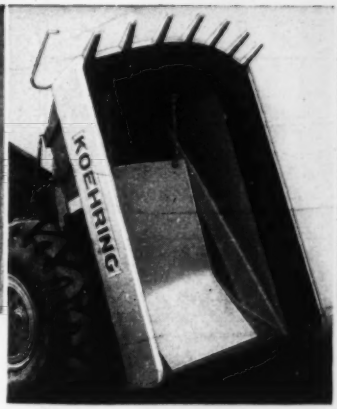
4 Big 16.00 x 24" single drive wheel tires. Special heavy duty for off-road work. No rock wedging between duals.



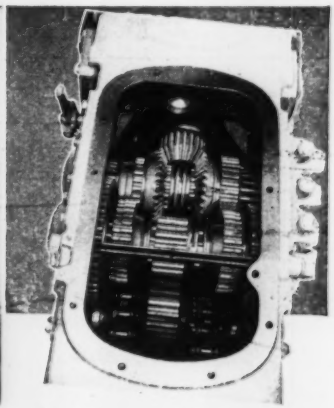
KOEHRING CO. MILWAUKEE 10, WISCONSIN



5 No Dumptor drive axle has ever been broken in rock. They're chrome nickel steel, 4" in diameter, heavy cast steel case.



6 Kickout pan adds 3/16" steel on top of 3-layer steel-oak-steel bottom. Body sides heavily reinforced with 4" steel channels.



7 Transmission runs in oil . . . lasts longer. Oil changed only once a season. No need for continuous refilling. Case is oil-tight.

New 3½-S End Discharge Mixer Saves Labor

Improved Non-Tilt Model

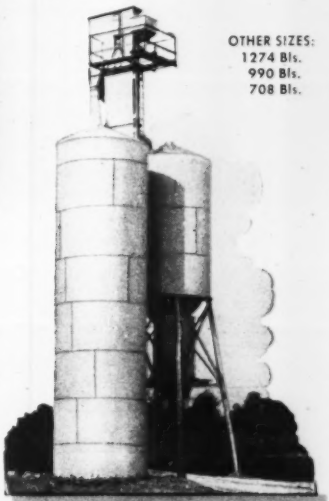
Compare these features found on the new Kwik-Mix non-tilt mixer: Mixing drum powered by multiple V-belt for smoother operation, less maintenance costs; charging side water entry for more uniform mix, less clogging; all levers conveniently grouped on one side; manual hopper shaker that may be used when needed. Write for more facts!

KWIK-MIX COMPANY
PORT WASHINGTON, WISCONSIN

Stores up to 1,550 Barrels Cement Yet Fully Portable

Johnson Twin Silo Bulk Cement Plant

Combines large storage capacity — up to 1,550 barrels of cement for the largest size — with complete portability. All-welded construction simplifies erection.



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990 Bls.
708 Bls.

C. S. JOHNSON COMPANY
CHAMPAIGN, ILLINOIS

Shifting Boom Eliminates Costly Handwork

Parsons 250 Trenchliner

Shifting boom permits Parsons 250 Trenchliner to sidestep obstructions — walls, trees, utility poles — that would stop other trenchers. Costly handwork is eliminated. Boom shifts easily from side to side across full width of Trenchliner, because it rides on large diameter rollers.

PARSONS COMPANY
NEWTON, IOWA

MEN AND JOBS

M. D. Clark, superintendent of the Durham and Southern Railway at Durham, N. C., has been named chief engineer of the Piedmont and Northern and Durham and Southern Railways, at Charlotte, N. C. He obtained his civil engineering degree from North Carolina State College in 1923 and then went with the Phoenix Bridge Co. of Phoenixville, Pa. He joined the Seaboard Air Line Railroad as draftsman at Norfolk, Va., in 1923 and next was transferred to the roadway department at Hamlet, N. C., as assistant division engineer. Subsequently he was assistant roadmaster and roadmaster at Raleigh, N. C., and Richmond, Va., before being named engineer of maintenance of way and structures of the Piedmont and Northern and the Durham and Southern in Charlotte in January, 1940. He has been succeeded at Durham by **Franklin Way**, who had been with the Seaboard Air Line Railroad as assistant superintendent of the Virginia Division, with headquarters at Raleigh, N. C.

Frank V. Dowd is superintending engineer in charge of water and sewers at Montreal, Que.

Capt. Lewis N. Moeller of Washington, D. C., has been approved by President Truman for promotion to Rear Admiral in the Civil Engineer Corps of the Navy. Captain Moeller entered the Engineer Corps in December, 1917. He was commended by the Secretary of the Navy for his World War II service as director of the Progress Control and Statistical Department of the Bureau of Yards and Docks.

On floodwall project to keep the Missouri River out of Omaha, Bill Neumarker (left), superintendent for Parsons Construction Co., Omaha, discusses progress with personnel of Omaha District, Corps of Engineers. With him are (l. to. r.): Bill Foster, chief inspector; L. G. Leavitt, resident engineer; and Seth R. Woodruff, chief, Flood Control Branch.

E. C. Brandon, city manager of Kings Mountain, N. C., has been named city manager of Asheboro, N. C., succeeding **Kent Mathewson** who has been named to a similar post at Martinsville, Va.

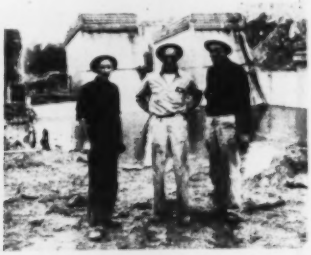
Donald W. Darnell has been named president of the Fluor Corp., Ltd., constructors and engineers of Los Angeles, Calif., succeeding **Shirley E. Meserve**, who becomes chairman of the board. Darnell, who joined the company in 1925 as engineer, has been vice-president and general manager since 1947. Meserve has been president since 1947.

Charles P. Casey has been appointed director of public works and **Clifford M. Hathaway**, chief highway engineer of Illinois. Casey held the same position from 1934 to 1941, and Hathaway has been engineer of construction in the department since 1922.

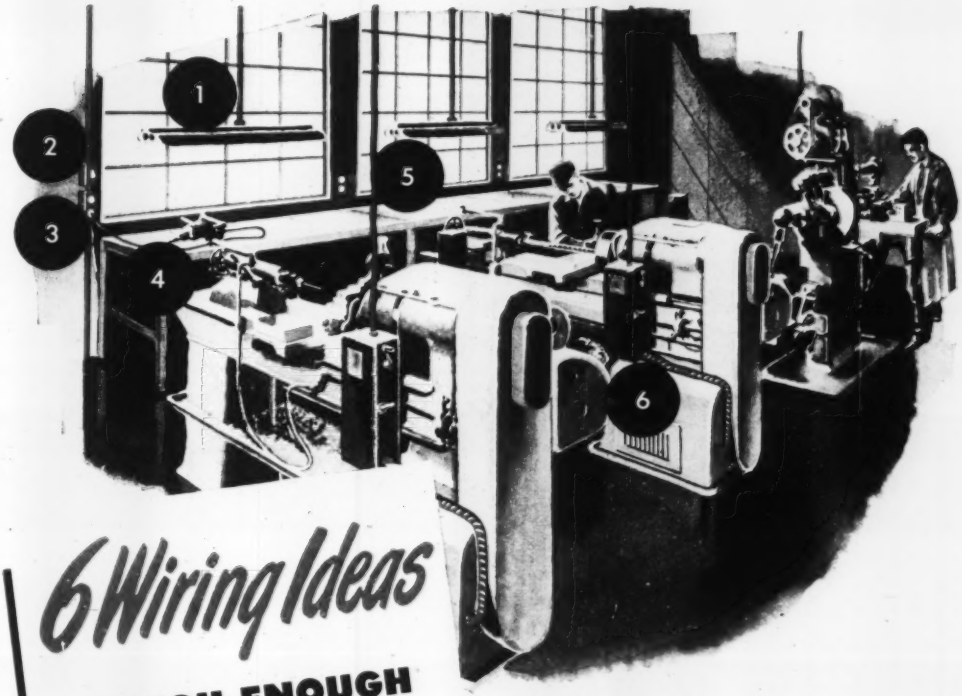
D. P. De Bourd is city planning engineer and assistant city engineer of Omaha, Neb. He had been superintendent of the city sewage treatment plant. He succeeds **J. M. Garrison**, now manager of the Omaha Improvement Commission.

Maj. Ashod M. Ahmajan, former assistant resident engineer on the Conemaugh Dam project, has been made executive officer for the Pittsburgh district Army Engineers. He succeeds **Lieut. Col. Hamilton W. Fish** who

At the recent meeting of the Southeastern section of the American Waterworks Association at Augusta, Ga., were left to right, Paul Weir, manager, Waterworks department, Atlanta, Ga.; C. H. Smedberg, consulting engineer, Atlanta; William Wise, manager-engineer, Commissioners of Public Works, Newberry, S. C.; A. P. Black, professor of chemistry, University of Florida, Gainesville; R. B. Simms, superintendent of waterworks, Spartanburg, S. C.; Grady L. Bain, resident engineer, Clark Hill Project, Corps of Engineers, Augusta, Ga.; and Harry E. Jordan, Secretary, AWWA, N. Y. City.



Veteran dam builders of Boulder and Shasta fame, now building the Corps of Engineers' Narrows Dam in Arkansas, for the Arundel Corp. and L. E. Dixon Co., joint venturers, are, left to right, L. J. Carney, swing-shift superintendent; R. H. Miller, concrete superintendent; and Vic Apted, general superintendent.



6 Wiring Ideas

TOUGH ENOUGH FOR TOOLROOMS

Cutting costs is the toolroom's job. And all wiring material in a toolroom has got to be tough enough to work economies every step of the way.

That's why we've picked six cost-cutting General Electric wiring materials right off your distributor's shelves to help you get full value out of every dollar.

1 **HEAT-RESISTANT** Deltabeston* wires go a long way toward reducing maintenance. Made for locations like this, where ambient heat and high-level lighting circuits are a problem, Deltabeston wires are a "must" for every shop. Consider Deltabeston wires and cables for all circuits where heat is a threat, and wherever high current densities are involved.

2. **HEAVY-DUTY SWITCHES** selected from the complete General Electric line have the toughness it takes to stand up in a toolroom. They're totally enclosed to keep out flying chips and dust—built to take a beating day after day. Choose the switch for the job you want to do from General Electric's wide range of 20- and 30-ampere types.

*Trade-mark Reg. U. S. Pat. Off.

3. **HEAVY-DUTY OUTLETS** have got to be tough, too, to take the abuse of a toolroom. Three-wire outlets from the General Electric line are available in types to meet the most difficult specifications. Sturdy construction and tough materials are used throughout in these heavy-duty units.

4. **PORTABLE CORDS**—General Electric Flamenol* portable cords are proving that they can take it every day on jobs like this. Thermoplastic jacket has the flexibility and strength needed for tools that are constantly in use. These cords take hard knocks and abrasion in their stride—resist acids, alkalies, water, and oil. Use Flamenol portable cords for reduced maintenance on medium- or heavy-duty tools.

5. **BUS DROP CABLE** is another tough item from General Electric's line of wires and cables—designed to take a beating in a difficult spot. Neoprene jacket takes plenty of abuse—flexes easily for installation in problem locations—stays in for a long, long time.

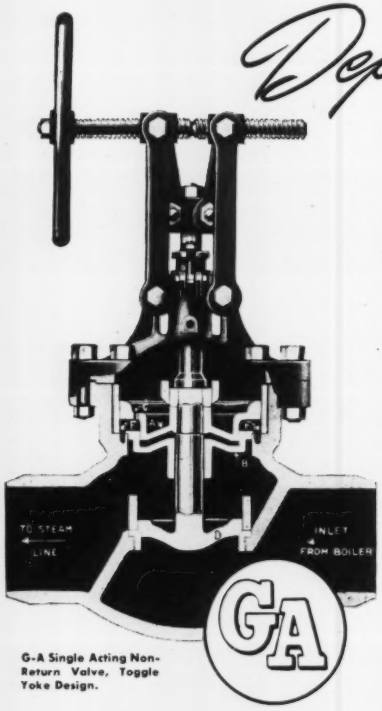
6. **FLEXIBLE CONDUIT** is the protection you need on motors and motor-driven tools. Wherever there's vibration or movement, use General Electric flexible conduit. Its strip-wound construction lets it move with the tool—steel gives it the strength wiring needs for protection.

These are just a few of the tough, long-life items in the complete General Electric wiring materials line. Your distributor can supply you with these or any of the other materials you need to do your job well. Ask him about them, or write for information to Section K13-204 Construction Materials Department, General Electric Company, Bridgeport 2, Connecticut.

GENERAL ELECTRIC

Since 1905

Known for Quality and Dependability



G-A Single Acting Non-Return Valve, Toggle Yoke Design.

For over 35 years Golden-Anderson Valves have proved themselves in the toughest of Industrial and Power Plant applications. These "Engineered Protection" Valves are the safe, economical answer to every flow control problem.

Over 1500 standard G-A Valves, plus unlimited technical resources are available for developing special valves to fit your particular job application. Consult G-A engineers on your most difficult valve problems—without obligation.

LIFE AND PROPERTY PROTECTION VALVES SINCE 1905

GOLDEN-ANDERSON *Valve* SPECIALTY CO.

Keenan Building, PITTSBURGH 22, PA.

(Continued from page 44)

has been assigned as assistant resident engineer at Local No. 2, Monongahela River, Braddock, Pa., reconstruction of which is now starting.

Charles E. Malig, architect and engineer for the city of Milwaukee, Wis., for 38 years, retired on April 20.

Dewey Farr, St. Johns, was appointed chairman of the Arizona Highway Commission at a reorganization meeting in Phoenix. He succeeds **Marcell Forman,** Yuma, whose term expired. **Bryce Covington,** Kingman, was named vice-chairman. The commission reappointed **W. C. Levebvre** as state highway engineer and **Mel Goodson** as secretary.

F. H. McGraw & Co. has elected three new officers—**Urban D. Gosselin,** formerly assistant to the president, vice-president; **Harry W. Mathews,** veteran project manager, assistant to the president; **Frank J. McClean,** formerly secretary, controller. Gosselin and McClean will continue to work from the Hartford office, covering such projects under way as the Coosa River newsprint plant, Childersburg, Ala., Pacific States cast iron pipe foundry, Provo, Utah; and modernization of Gary Sheet and Tin Mill, Gary, Ind. Mathews, construction superintendent on the $12,000,000 coal preparation plant for Jones & Laughlin at East Fredericktown, Pa., will remain there till completion this summer.

Geo. S. Galter is with the filtration plant design division of Chicago. He is engaged in the preliminary design of a 950 mgd. plant, the exact location of which is not yet decided. Planning money has been advanced by the federal government and the state of Illinois.

Louis B. Ackerman, left, former resident engineer for the Bureau of Reclamation's $9,000,000 O'Sullivan Dam in the Columbia Basin Project, discusses a construction problem with his successor, Althe J. Thomas. Ackerman has been promoted to head of the construction division of the Bureau's Region VI at Billings, Mont. Thomas has been field engineer at the dam under Ackerman since 1946.

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A Complete Unit for a Complete job

You're always *sure* you're getting the very best in efficient, economical packaged air conditioning when you specify Governair—the original patented design!

This complete unit is easy to install—requires only simple electrical, water and duct connections. Built-in Evaporative Condenser keeps water usage down to a minimum. Governair engineering assures correct co-ordination and balance of all functions. Generously proportioned heat transfer surfaces provide maximum performance and economy.

Choose Governair completely packaged air conditioners and you'll *always* do your best!

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Would you like to know how Air Conditioning jobs can be installed for from $100.00 to $400.00 per ton less?

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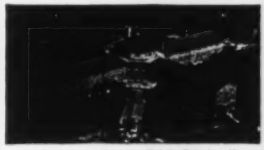


All Buildings Modern Brick Construction

Florida's West Coast

BOCA GRANDE HOTEL and CLUB

BOCA GRANDE, FLORIDA
(100 miles south of Tampa)

Facing Gulf of Mexico. Providing relaxation, world-famed fishing, 2 mile private beach, golf, shelling, superb cuisine, combined with finest modern accommodations. American Plan only. Distinguished Clientele. 18th Season same ownership, Joseph Spadaro, Owner-Gen. Mgr.

• Club Open • Dec.-June • Double with bath $24—$26; Single $16—$18, daily.
• Hotel Open • Jan.-April • All outside rooms with private tile bath and shower.
• Double room $30 daily and up-Single occupancy $22 daily and up.

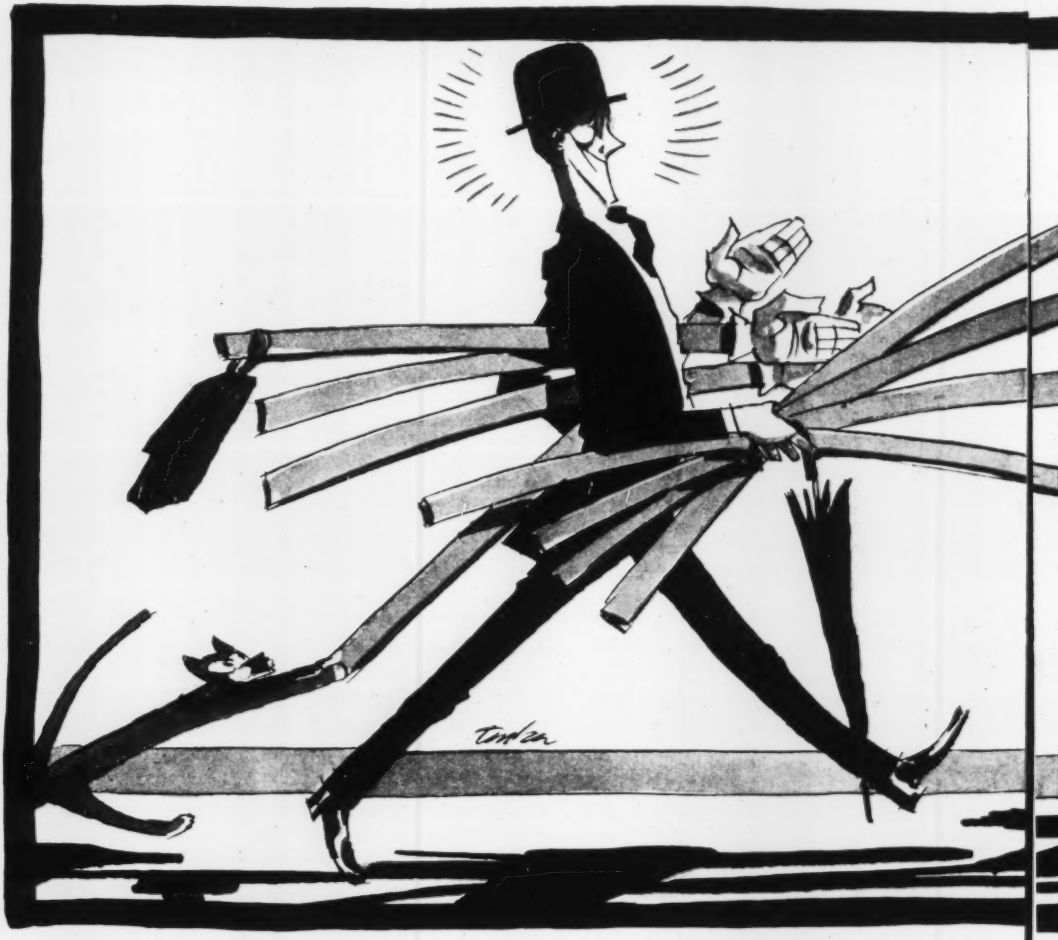
Ask for Folder E

Information—Reservations

Wire or write—Boca Grande Hotel—Tel. Boca Grande 4251, or
N. Y. OFFICE—Edith L. Turner, Rep., 51 E. 42 St., MUrray Hill 2-3341 or 8442

How many hands can an

(AN AD ABOUT EXTRAS)



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American Mutual has the best long-time record in the field for this kind of savings...62 years of sending money your way!

We've got another hand just itching to serve you...a hand that's helped reduce premiums for some contractors as much as 34% below the average rate.

We call this our Special Engineering Construction Service ...and we defy anyone to find a better aid in helping reduce accidents and speeding up work!

We've got a hand that's ready to protect your company against every possible hazard . . . including getting bitten by sharks in Iowa! (Rare)

And one of the fastest hands we offer is the one that settles claims!

"Prove it," you say . . . and we will! Just recently a policy holder had a bad accident. Eight minutes later an American Mutual man was on the scene . . . In less than 30 minutes everything was settled!

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by Mr. Friendly

We draw the line, however, at making settlements *before* the accidents occur!

The point is . . . with 73 offices in major cities throughout the country, we're always close at hand and always ready to serve you in the best possible way!

And, just as a clincher, may we remind you that you get this service at no extra charge with every industrial policy!

A M

P. S. We'd also like to *hand* you 2 free illustrated text books. Send today for "Surface Construction Without Accidents" and "Foremanship and Accident Prevention in Construction."

MAIL THIS COUPON NOW—WITHOUT DELAY!

Dept. O-80, American Mutual Liability Insurance Company
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Without obligation, please *rush* to me more information on the All-American Plan, so that I may be richer and happier!

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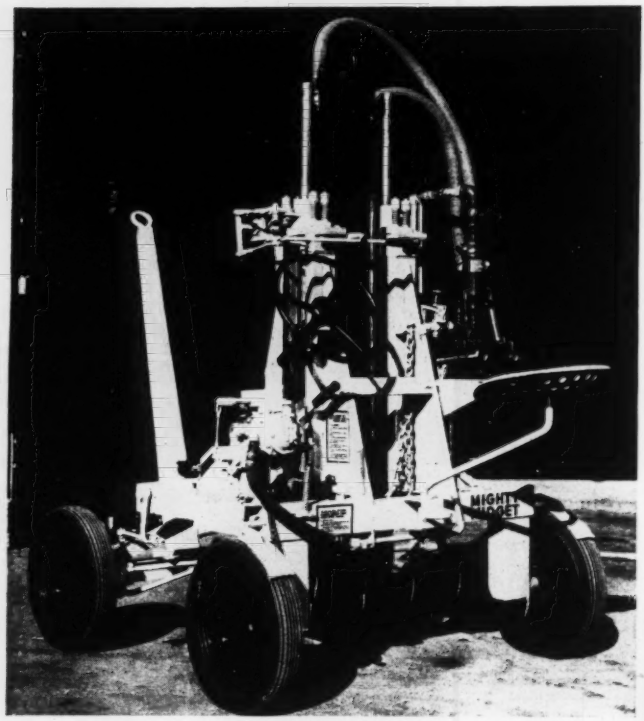
NEW PRODUCTS



Rapid Pavement Breaker

Makers of the Mighty Midget Pavement Breaker announce new features which permit greater ease of handling and gains in yardage of concrete broken in a day's operation. All controls are within easy reach of the seat directly behind the machine, allowing the operator to see exactly where and how the hammer contacts the pavement. A steering wheel has been added which fits alongside the machine and is readily reached. Worm drive tends to hold the front wheel much steadier under difficult conditions encountered on various projects. New higher wheels allow the machine to run through broken concrete and remain on a straight course, without sinking into the concrete.—THE RAPID PAVEMENT BREAKER CORP., 2751 EAST 11TH ST., LOS ANGELES, CALIF.

Magnetic Strain Gage

Provides simple method of directly measuring small distortions in a static member resulting from a tensive or a compressive load. Useful as a warning to the operator when a crane is in danger of upsetting due to overloading or on other metal structures where variations in load may approach safe limits of the supporting member. Unit consists of strain gage enclosed in a watertight case ($3\frac{1}{4}$x$8\frac{1}{4}$x$3\frac{1}{4}$ in) and pilot bar, sensitive to a force as small as 20 lb., which is rigidly mounted on the supporting member and a controller with indicating dial located wherever desired near operator. Operation is from a single-phase 110-volt, 60-cycle supply. Power required is 35 volt amperes.—WESTINGHOUSE ELECTRIC CORP., BOX 868, PITTSBURGH 30, PA.

Hydraulic Dump Trailer

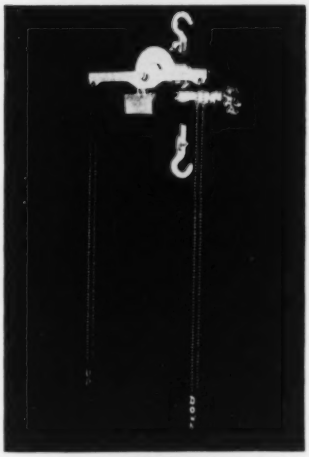
Designed to meet heavy hauling and dumping requirements and to take punishment resulting from extreme conditions of off-highway use. Any type of high tensile reinforced steel body can be provided. Trailer chassis is of all-structural steel construction with main frame members riveted. Specially designed hoist sub-frame distributes load over entire length of chassis and provides a low mounting height. Extra heavy duty, double lifting cam type hydraulic hoists are furnished in accordance with load requirement. Company specializes in custom engineering all types of heavy-duty trailer chassis and bodies as well as bottom-dump gravity-flow semi-trailers.—OMAHA STANDARD BODY CORP., COUNCIL BLUFFS, IOWA.

Safety Hoist Hook

Hooks are drop-forged for maximum strength and reliability. Automatic mousing action with a safety-tie lip lock holds point of hook and prevents sling from slipping off. Safety-tie mousing automatically engages as the load is applied and disengages when load is released. Available in two sizes, 5-ton and 10-ton. Both sizes are available in two styles with eye bridge or with shank bridge—BREWER-TITCHENER CORP., CORTLAND, N. Y.

Single-Drum Winch

Light weight, high-speed friction-driven winch is designed for use with Caterpillar tractors. Line is led through a 180-deg. swiveling fairlead allowing line to spool on drum without repositioning tractor.—HYSTER CO., PORTLAND 8, ORE.



Electric Hoist

This hoist weighs less than 15 lb. and will handle loads up to 500 lb. at the rate of 1 ft. per second. It can be used either on AC or DC power. It is reversible with fully enclosed reel drum. The body is of high strength aluminum alloy.—L. P. MFG. CO., 3952 CENTRAL AVE., N. E., MINNEAPOLIS, MINN.

Here's help in your drive for lower costs

Preformed "Blue Center" Wire Rope lasts longer...

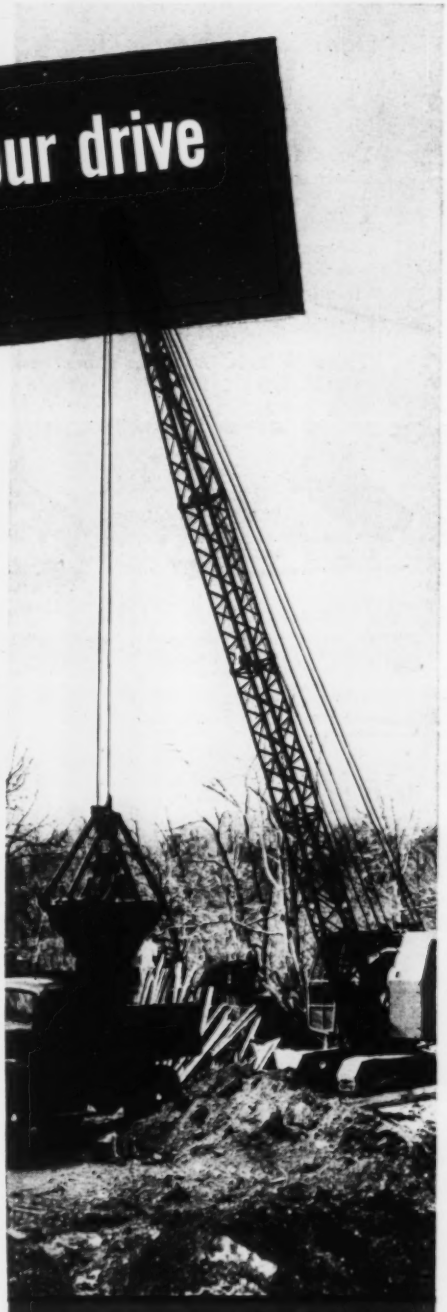
ROPE THAT STAYS on the job longest saves you wire rope dollars; brings fewer shut-downs; cuts down replacement time. And Roebling Preformed Lang Lay "Blue Center" Steel Wire Rope gives you exactly these money-saving features . . . One big reason for this superiority is "Blue Center" Steel specially developed for wire rope and made only by Roebling. Another big reason is the Roebling Preformed construction with its unique service advantages.

WHY PREFORMED IS ECONOMICAL

Roebling Preformed is easy to handle and install because it is relatively inert and doesn't tend to set or kink. It can be cut without seizing, and fittings are more easily applied. In operation, Preformed gives outstanding life despite severe bending, and particularly where small sheaves and reverse bends occur.

FREE ENGINEERING SERVICE

Call on your Roebling Distributor for help in selecting the *right* wire rope for longest service and rock-bottom cost. If you have specially tough problems in wire rope selection, installation or maintenance, your Distributor will be glad to secure the assistance of a Roebling Engineer. John A. Roebling's Sons Company, Trenton 2, New Jersey.



ROEBLING

A CENTURY OF CONFIDENCE

WRITE OR CALL THE ROEBLING FIELD MAN AT YOUR NEAREST ROEBLING OFFICE AND WAREHOUSE

Atlanta, 934 Avon Ave. ★ ***Boston,*** 51 Sleeper St. ★ ***Chicago,*** 5525 W. Roosevelt Rd. ★ ***Cleveland,*** 701 St. Clair Ave., N. E. ★ ***Denver,*** 1635 17th St. ★ ***Houston,*** 6216 Navigation Blvd. ★ ***Los Angeles,*** 216 S. Alameda St. ★ ***New York,*** 19 Rector St. ★ ***Philadelphia,*** 12 S. 12th St. ★ ***Pittsburgh,*** 855 W. North Ave. ★ ***Portland, Ore.,*** 1032 N. W. 14th Ave. ★ ***San Francisco,*** 1740 17th St. ★ ***Seattle,*** 900 First Ave.

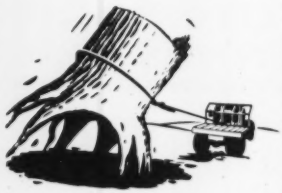
IT'S A CINCH

WITH TULSA WINCH!

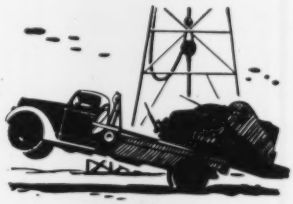
Yes, the job's a cinch with Tulsa Winch, whether it's a load to lift, skid, pull, dump; a tree to uproot or materials to transport. You'll find a hundred-and-one more uses for your truck, too, when you have a powerful Tulsa Winch. Handles loads from 500 pounds to 200,000 pounds.

Tulsa Winch, America's best winch buy, is safety-insurance, too. For Tulsa Winch HOLDS THE LOAD! The exclusive back-off brake is positive protection against costly accidents. Your jobs will be easier, your truck worth more to you, when you have a Tulsa Winch installed. Write for bulletin, and list of distributors. Tulsa Winch Division of Vickers, Inc., 815 E. First, Tulsa, Oklahoma.

DUMPING

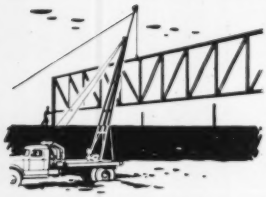


PULLING

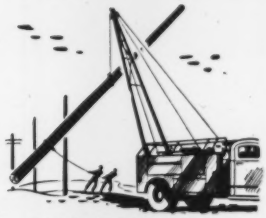


LOADING

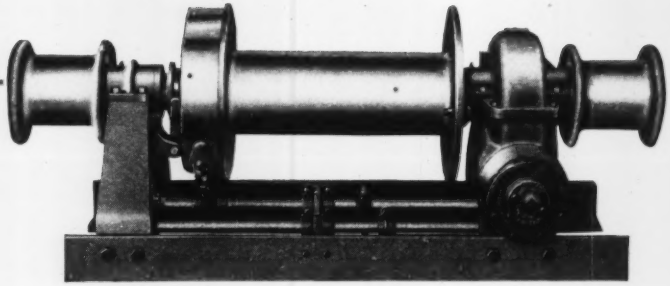
UNLOADING



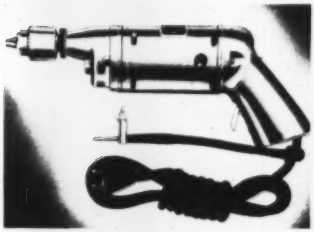
ERECTING



MAINTENANCE

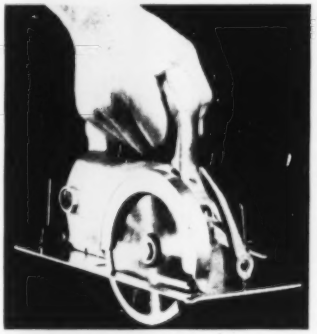


Tulsa Winch
TULSA, OKLAHOMA
DIVISION OF VICKERS Inc.



Portable Electric Drill

Lightweight ¼-in. drill has comfortable pistol grip handle and Cutler-Hammer trigger switch and Jacobs-key-type chuck. Air-cooled motor is of universal type, a.c.-d.c. 110-115 volts. Drill is 11½ in. long overall and weighs 3½ lb. Capacity in steel is ¼ in. and in hardwood ⅜ in. diam. Full-load speed is 600 rpm. and no-load speed, 1,400 rpm. Tool is Model 250.—PORTABLE ELECTRIC TOOLS, INC., 255-259 W. 79TH ST., CHICAGO 20, ILL.



Electric Saw

Equipped with blade 4½ in. in diameter, Guild saw capacity is a full 1¼ in. on straight cutting or 1 in. at a bevel of 45 deg. Driven by universal motor operating either on a.c. or d.c. up to and including 60 cycles, standard 110 volt. Overall dimensions are: length, 10½ in., width 4½ in., height 8 in. Shipping weight is 10 lb. Can be tilted to 45 deg. for bevel or compound mitre cut. Adjustable ripping guide makes fast, accurate ripping simple. Safety guard protects operator. Blade teeth are exposed only where they are actually cutting.—PORTER-CABLE MACHINE CO., SYRACUSE 8, N. Y.

Ductile Cast Iron

New engineering material described as ductile cast iron closes gap between cast iron and cast steel. Its physical properties include high elastic modulus, high yield strength and ductility. Production of this iron involves introduction of a small but effective amount of nickel-magnesium alloy.

. . . cut design, construction and maintenance costs with a

KOPPERS

"Made-to-Measure" Bridge*

● Your savings *start* in the drafting room! Various types of abutment, bent, deck and railing bridges are detailed, dimensioned and blueprinted in Koppers "Made-to-Measure" Bridge Book. Select the types desired; then, on a data sheet, provide certain essential information as to dimensions and site; send to Koppers for a quotation. Your project can reach the quotation stage in a fraction of the time, and with substantial reduction of the preconstruction expense usually required.

Your savings *continue* through construction! By standardizing parts and dimensions, bridge members can be framed, treated and shipped to the job site all ready to be assembled. Erection can be made by highway crews plus local labor. No special equipment is needed.

Your savings *continue* through the years! Bridge members are made of standard grades of wood—wood that has been properly seasoned, then pressure-treated. This pressure-treatment protects the wood against decay . . . assures maximum life with minimum maintenance.

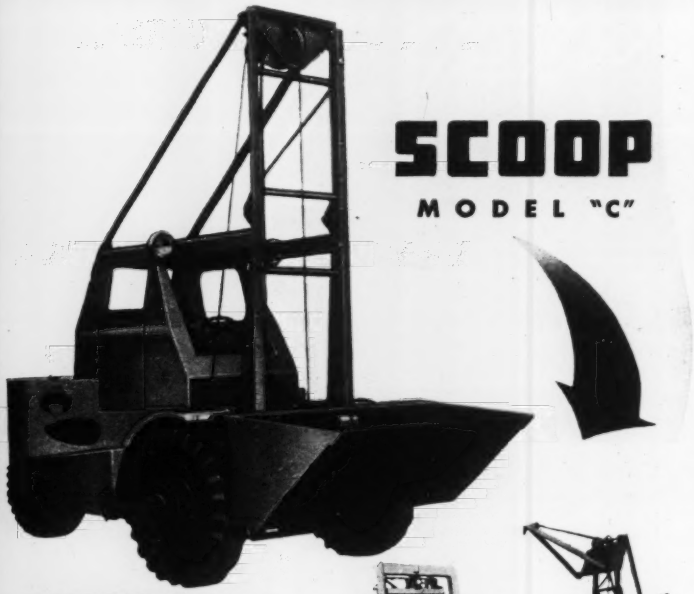
*With the use of rolled I beams and pressure-creosoted construction, it is possible to have clear spans up to 76'.

If you are interested in trestle bridge construction, send for a free copy of Koppers "Made-to-Measure" Bridge Book.

KOPPERS PRESSURE-TREATED WOOD

KOPPERS COMPANY, INC., Pittsburgh 19, Pa.

VERSATILE PROFIT-MAKER



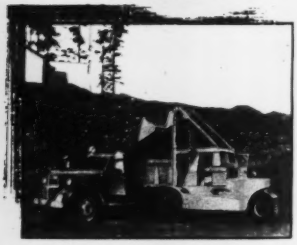
SCOOP
MODEL "C"

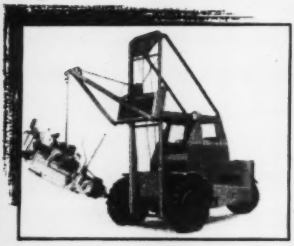
LIFT FORK

CRANE BOOM

CONCRETE HOPPER

FERTILIZER FORK


Loading is easier, more practical. High ground clearance and shorter turning radius.


Lifts 4,000 pounds. Hoisting power is taken from the front of the engine to permit uninterrupted hoisting.

One machine—6 jobs

Built at the request of contractors, the Wagnermobile Scoop Model "C" saves time, labor costs by its many efficient uses.

- Transports, elevates and pours concrete.
- Shovels and loads dirt, etc.
- Lifts and stacks lumber and other materials.
- Handles fertilizer, hay and straw.
- Lifts heavy equipment.
- Reaches extra height.

Attachments:

- ¾ cubic yard concrete hopper.
- Scoops in 5 sizes.
- Lift fork with 2, 3 or 4 prongs.
- Special fork with tines for fertilizer, or hay.
- Crane boom.
- Track extensions up to a total of 26 ft.

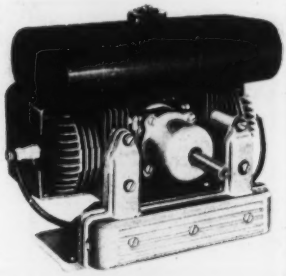
These six attachments, quickly changed mean profit on the job. Wagnermobile Scoop helps you complete contracts faster.

Hydraulic controls.
Power steering-maneuverability.
Planetary drive—more power.
4 speeds forward, 4 speeds back.

MIXERMOBILE MANUFACTURERS

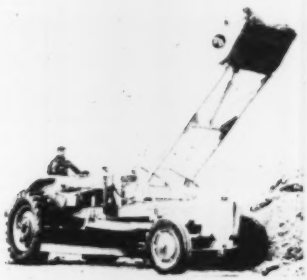
6855 N. E. HALSEY STREET, PORTLAND 16, OREGON

Potential applications of this new material are claimed to be many and varied in machinery and industrial equipment.—INTERNATIONAL NICKEL CO., INC., 67 WALL ST., NEW YORK 5, N. Y.



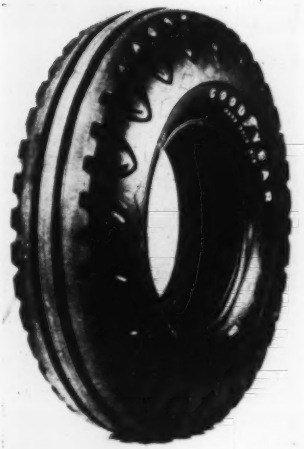
23-lb. Engine

A 2 hp. air-cooled engine with twin opposed cylinders and weighing only 23 lb. has been developed. It is claimed that light weight and compact design have been obtained without sacrifice or ruggedness. It starts easily, operates smoothly and without stalling even at tilts up to 45 deg.—POWER PRODUCTS CORP., GRAFTON, WIS.



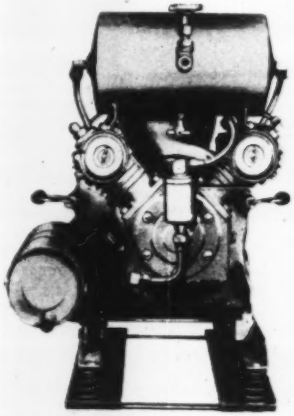
Front End Loader

This M-B front end loader is designed to give more productive time from power graders. Its operation is independent of the grader blade, scarifier or leaning wheels. The grader may windrow dirt or snow to be scooped up by the loader for dumping into trucks. The loader is also effective for handling materials for stock piles. It is equipped with a standard ½-yd. bucket for handling dirt, sand, gravel, etc. A 1-yd. bucket is available for handling snow and other light bulky materials. The bucket when in dumping position has a clearance of 8 ft. 6 in. for easy loading of even the highest dump trucks. A single lever at the operator's seat provides complete remote control of the digging pitch, raising, leveling, dumping, shaking and lowering of the bucket.—MEILI-BLUMBERG CORP., NEW HOLSTEIN, WIS.



Hard Rock Rib Tire

A new type of tire known as the Hard Rock Rib, is being manufactured in three sizes, including 12.00-24, 13.00-24 and 14.00-24. It is designed especially for front wheel service in heavy construction, excavation and strip mining and is expected to help eliminate hard steering and vibration encountered in those types of operations. Tread design of the new tire consists of three ribs, with the shoulder pattern resembling company's standard Hard Rock Lug tire.—THE GOODYEAR TIRE & RUBBER CO., AKRON, OHIO.



Light Weight Compressor

Unit known as "Little Workhorse" consists of a V-type, two-cylinder, single-stage compressor direct-connected to a 4½-hp. air-cooled engine. Compressor has a 2½-in. bore with 1¼-in. stroke and operates at 3,000 rpm. Equipped with automatic centrifugally

PROFIT AT BOTH ENDS

DUO-WAY

Dozer at one end... Scoop at the other

Both labor and equipment costs are cut by this versatile machine. It performs four operations: loader, dozer, truck and tractor—all in one. More profit.

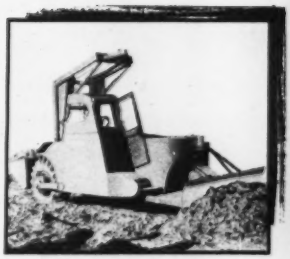
An 84-inch, full size dozer blade dozes out a bank...then turns around...

1 cubic yard scoop at the other end scoops up the loose dirt, lifts and loads it.

Duo-way Scoop features:

- Driver in sidesaddle position for all around vision and perfect control.
- Planetary drive for complete power output.
- All hydraulic controlled.
- Special tilt control track tilts 12° back, 9° forward.
- Top section folds down to 9 ft. 6 in. for low road clearance.
- Highway speed up to 25 m.p.h.
- 4 speeds forward, 4 speeds back.

Four operations performed by one machine, the Duo-way Scoop. It means more profit on every job.



Dozer blade: 3000 lbs. down pressure can be applied. Scoop can be filled on other end for ballast.

Scoop lifts to a height of 14 ft. (easy loading). Additional height available by special order.

Write today for literature and address of your nearest dealer.

MIXERMOBILE MANUFACTURERS

WAGNERMOBILE

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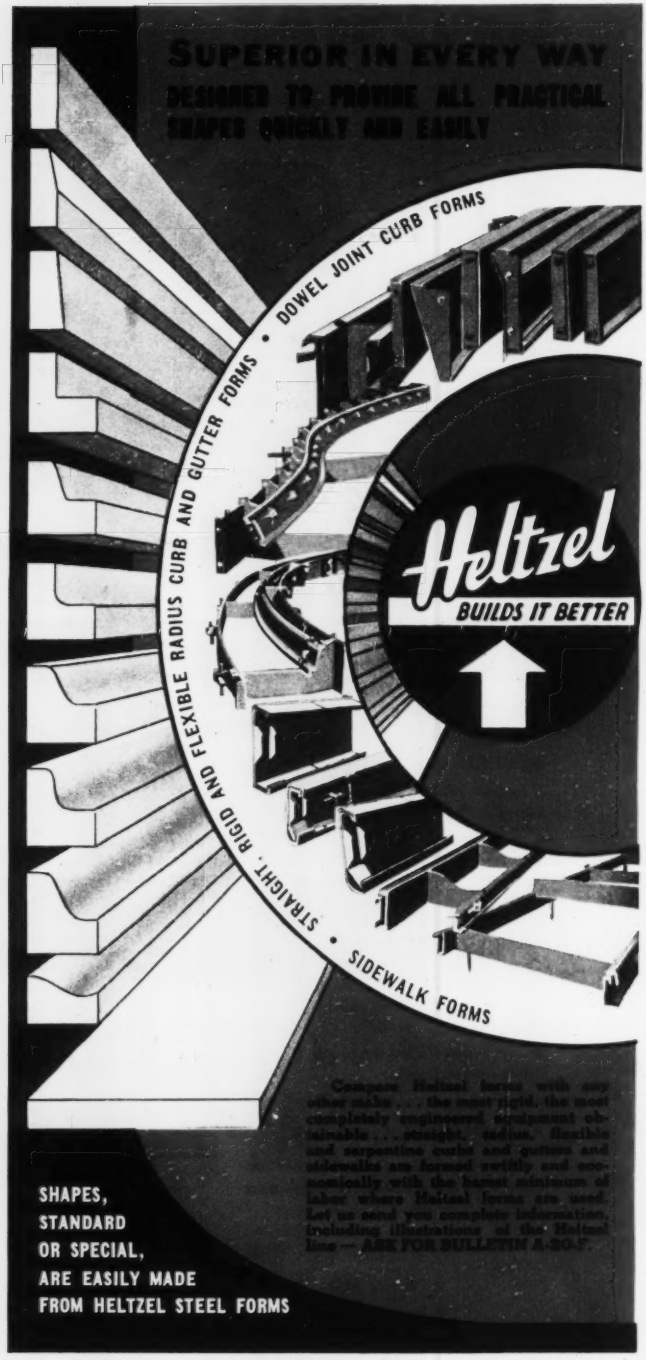
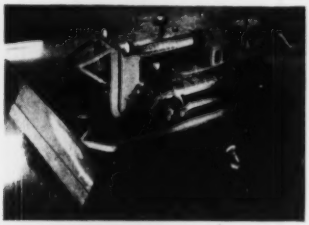
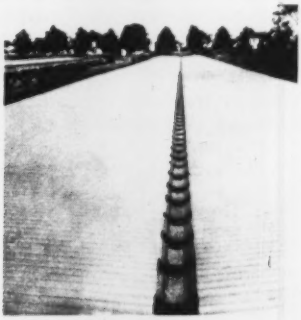

SUPERIOR IN EVERY WAY
DESIGNED TO PROVIDE ALL PRACTICAL SHAPES QUICKLY AND EASILY
DOWEL JOINT CURB FORMS
STRAIGHT, RIGID AND FLEXIBLE RADIUS CURB AND GUTTER FORMS
SIDEWALK FORMS
Heltzel
BUILDS IT BETTER
SHAPES, STANDARD OR SPECIAL, ARE EASILY MADE FROM HELTZEL STEEL FORMS

actuated clutch which momentarily frees engine from compressor for starting but re-engages at about 1500 rpm. Operating pressure is 100 psi. Length, 29 in.; width, 21 in.; height, 27 in.; weight 117 lb.—Davey Compressor Co., Kent, Ohio.



Small Sized Tractor

Crawler type tractor weighing 3,200 lb. and measuring 43 in. in width is adaption for civilian use of Clark airborne tractor used in World War II. Tractor is equipped with forward and reverse clutch used in connection with a four-speed transmission. Tractor is powered by 31-hp. Continental motor. A winch with a three-ton pulling capacity is available.—U. S. Tractor Corp., Warren, Ohio.

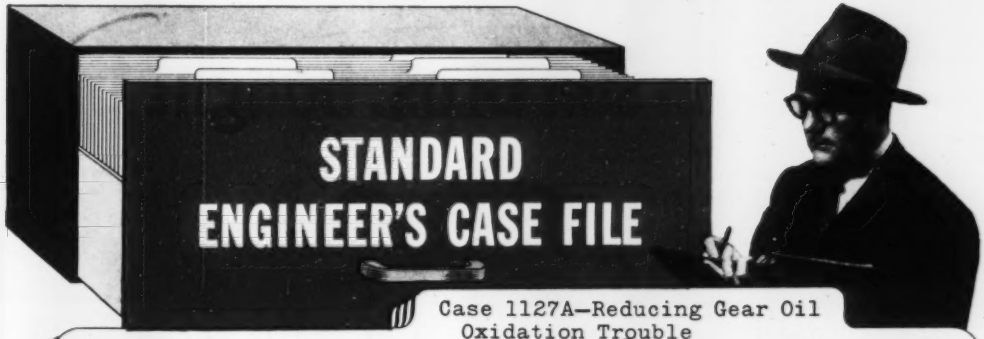


Aluminum Built-up Roofing

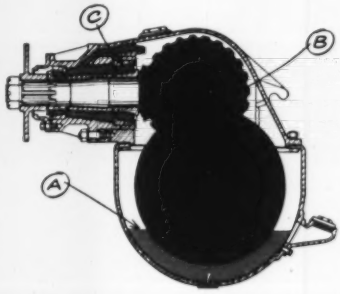
Shown above is the first application of Reynolds embossed aluminum built-up roofing for built-in, box-type gutters. 2,200 lin. ft. of the material were used to provide guttering without soldered cross seams or expansion joints at the Belmont Park Race Track passenger station at Belmont Park, N. Y. Corrugated aluminum, .032 inches thick, was used to roof the canopies.—Reynolds Metals Co., Louisville, Ky.

Stops Condensation Drip

Improved cork-filled No Drip Tape is easy to apply to cold water pipes to stop dripping. Straight pipes, valves, joints and tees can be covered without use of tools, adhesives or brads. Tape is wound spirally to form a tight-fitting sealed jacket.—J. W. Mortell Co., Kankakee, Ill.



Case 1127A—Reducing Gear Oil Oxidation Trouble



DIFFERENTIAL GEARS

RPM Gear Oil in automotive gears requiring straight mineral oil practically eliminated deposit formation. Recommended for conventional gears where manufacturers specify uncompounded lubricant. Comes in the proper grade for every service condition.

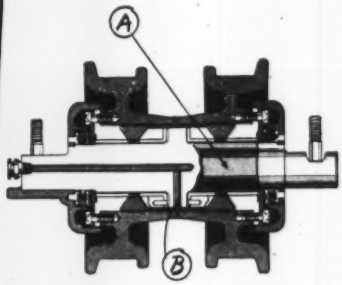
A. Made from selected paraffinic oil stocks—highly resistant to extreme temperatures and oxidation.

B. Provides tough lubricating film—withstands moderately severe gear tooth pressures and shock loads.

C. Will not corrode bronze bushings, bearings or other parts.

RPM Gear Oil contains a very effective foam inhibitor which prevents air bubbles from forming and building up pressure in cases. A low pour-point permits easy flowing in zero weather.

Case 1124—Maintaining Lubricating Film on Tractor Rollers



CATERPILLAR TRACK ROLLER BEARING

When track-roller bearings in a Caterpillar doing heavy-duty dirt moving were lubricated regularly with RPM Tractor Roller Lubricant, their service lives were noticeably extended. Efficient in all climates. To meet various conditions, it comes in three grades: Light, Medium and Heavy.

A. Contains a highly effective chemical anti-wear agent.

B. Has new stringiness agent—resists extreme pressure and constantly changing shock loads, controls flow of lubricant through bearings and keeps film on bearing surfaces.

RPM Tractor Roller Lubricant is resistant to water and helps seals keep out grit and dust.

A special kind of this outstanding product, RPM Tractor Roller Lubricant A.C. Type is made for Allis-Chalmers tractors.

For additional information and the name of your nearest Distributor, write

STANDARD OIL COMPANY OF CALIFORNIA

225 Bush Street, San Francisco 20, California

The California Oil Company
Barber, N. J.—Chicago, Ill.

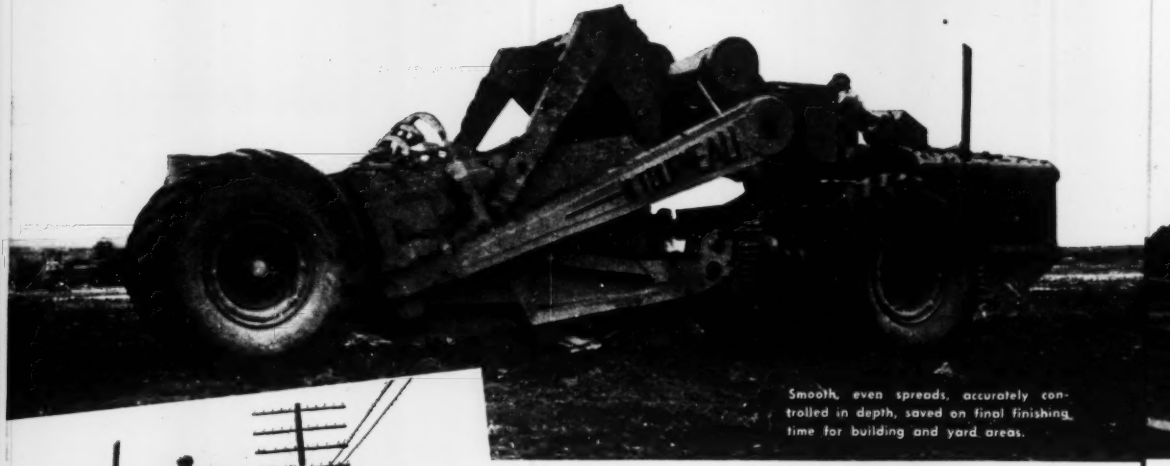
The California Company
17th and Stout Streets, Denver 1, Colo.

Standard Oil Company of Texas
El Paso, Texas

RPM

Trademark Reg. U.S. Pat. Office

Here's why Anderson Bros. bought their



Smooth, even spreads, accurately controlled in depth, saved on final finishing time for building and yard areas.

Big rubber tires, positive electric-control steer, and power-proportioning differential made it easier for operator . . . kept him moving pay yards at high speeds.

C Tournapull proved excellent for trimming side slopes. To improve drainage along railroad, this slope measured 1½ to 1 when finished. On levee, "C" easily trimmed slopes of 2½ to 1.

At Mendota, Illinois...

Anderson Bros. of Rockford, had to level a factory site and build spoil basins for a canning plant. Job called for moving 100,000 cubic yards of clay and top soil which was handled by Anderson's electric-control C Tournapull together with two tractor-scraper combinations. All three units were loading material from basin area and dumping to build enclosing levees with inside slope of 2½ to 1 and outside slope of 1½ to 1. While building these levees, a careful time study was made to check production of the C Tournapull and two tractor-scraper combinations. Anderson Bros. found the "C" moving 50% more pay yards per hour than either of the other two tractor rigs.

Tournapull hauls 3 loads 500' while crawler hauls 2 loads 400'

The high-speed, rubber-tired "C" was used on the far levee on haul of 500' one way. The two slower crawlers built closer levees on one-way haul of 400'. All three scraper combinations were loaded

Send for Complete Facts

To: R. G. LeTOURNEAU, Inc., PEORIA, ILL. Please send information on "C" TOURNAPULL:

☐ Specifications ☐ Price ☐ Delivery ☐ Would like job analysis on present operations

NAME..... TITLE.....

COMPANY..... TYPE OF BUSINESS.....

STREET..... CITY, STATE.....

Would also like information on ☐ 7-yard "D" ROADSTER ☐ Big 30-yard "B" TOURNAPULL

Second C TOURNAPULL

The "C" consistently packed in big heaping loads that averaged 10½ pay yards per trip.

Says H. A. Williams, C Tournapull Operator

"When it was so muddy crawlers couldn't climb the 2½ to 1 slope up the 9' levee, the "C" went right up with no trouble. Sometimes had to run through a foot of standing water . . . never bogged down. Used the "C" to slope 1½ to 1 ditch along U.S. 34, also to slope 2½ to 1 on levee sides. It's easiest machine on operator I ever saw!"

by the same pusher in the same material taken from the same area of the pit. Average loads were carefully measured and were checked by contractor and superintendent at **10.5 pay yards each in all three units.** Material was wet and very sticky . . . haul road was rough and slippery.

The LeTourneau "C" made the average 1000' round trip in 3.5 minutes while crawlers averaged 5.3 minutes on the 800' cycle.

Tournapull hauls 50% more yards... on 25% longer cycle...costs less to buy

In an hour the Tournapull made 14¼ trips to 9½ each for the two crawlers, delivered 150 pay yards per hour to 99 each for the crawlers. In the 10-hour day worked, this figured 1500 yards for the "C" against 990 for each crawler or over 500 more yards per day for the high-speed Tournapull. This is especially significant because the "C" was working a 25% longer haul. As a result of this profitable performance, Anderson Bros. bought a second electric-controlled C Tournapull.

Significant, too, is the fact that the crawler-scraper combinations on this job currently cost, respectively, 7% and 25% more than the C Tournapull. Even at a very conservative cost of dirt, think what this 50% **extra** yardage means in terms of **extra** profit to you!

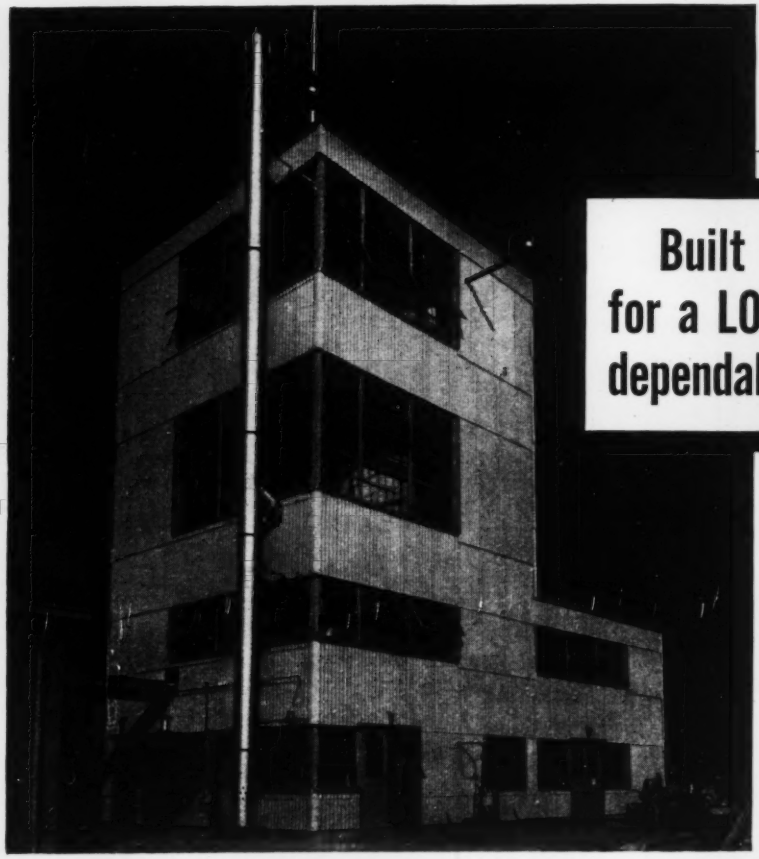
Check into this profit-making C Tournapull. Call your LeTourneau Distributor today for production estimates on your jobs . . . see for yourself how much more profit you can make with high-speed, electric-control "C's".

Tournapull — Trademark Reg. U.S. Pat. Off. C115

LETOURNEAU PEORIA, ILLINOIS — HIGH-SPEED RUBBER-TIRED **TOURNAPULLS**

MORE YARDS PER HOUR WITH RUBBER-TIRED POWER

• *New pilot plant of Pittsburgh Consolidation Coal Company at Library, Pa., sided with "Century" Asbestos Corrugated. Construction by Chemical Plants Division of Blaw-Knox Company, Contractors.*



Built for a LONG life of dependable service

K&M "Century" ASBESTOS CORRUGATED

Nature made Asbestos... Keasbey & Mattison has made it serve mankind since 1873

This large pilot plant of the Pittsburgh Consolidation Coal Company is the latest unit in one of the most modern research laboratories of its kind. The new building is designed and equipped for the study and development of more efficient coal gasification processes.

It is fitting that the fine equipment of this pilot plant should be housed in a modern building sided with good-looking, long-lasting K&M "Century" Asbestos Corrugated. This time-proved material is noted for great structural strength and ability to withstand severe commercial usage. It resists fire, weather, rot, rust and galvanic action. And no protective painting or upkeep is needed.

"Century" Asbestos Corrugated is easy to cut with a portable electric or band saw . . . easy to drill . . . easy and *fast* to apply, for it comes in 24 different sheet lengths. Can be re-used even after many years of service.

Write for name of nearest distributor and further particulars. Your inquiry will receive prompt attention.

KEASBEY & MATTISON
COMPANY • AMBLER • PENNSYLVANIA

MATERIALS AND LABOR PRICES

Market quotations on construction materials and wage rates reported monthly by ENR correspondents

June Materials and Labor Prices will appear in the June 9, 1949 issue

CEMENT, AGGREGATE, READY-MIXED CONCRETE—F. O. B. CITY

	PORTLAND CEMENT* Per bbl. C.L. lots incl. $1.00 per bbl. for bags, cash. dis. not deducted			SAND AND GRAVEL Per ton, carload lots			CRUSHED STONE Per ton, carload lots		CRUSHED SLAG Per ton, carload lots, f.o.b. plant		CONCRETE BLOCK 8 x 8 x 16-in.; truckload del.; per block		CONCRETE Ready Mixed 1:2:4, over. 50 c.y., del.
	Cloth	Paper	Bulk	Gravel, 1½ in.	Gravel, ¾ in.	Sand	1½ in.	¾ in.	1½ in.	¾ in.	Sand gravel	Lt. wgt. agg.	
Atlanta	$4.11	$3.36	$3.05	$2.00	$2.00	$1.75	$2.10	$2.10	$1.65	$1.85	$0.1725	$0.1725	$11.00
Baltimore	4.12	3.37	3.06	2.30‡*a*	2.30‡*a*	1.95‡*a*	2.60‡*a*	2.70‡*a*	2.45‡*a*	2.45‡*a*	.16	.16*a*	10.25
Birmingham	3.80	3.05	....	2.06	2.06	1.66	2.50	2.50	1.00	1.20	.165	.165	7.75
Boston	4.50	3.75	3.44	2.50*a*	2.50*a*	2.50*a*	1.60*a*	1.70*a*	....	....	.17	.185*a*	10.50*h*
Chicago	3.61 3.67	2.86 2.92	2.56 2.62	2.75‡*b*	2.75‡*b*	3.20‡*b*	2.75‡*b*	2.75‡*b*	2.00‡	2.00‡	.20	.206	....
Cincinnati	4.13	3.38	3.07	1.85‡*c*	1.85‡*c*	1.75‡*c*	2.95‡*h*	2.95‡*h*	2.30	2.30	.19	.225	10.60*d*
Cleveland	3.95	3.20	2.90	1.90*d-f*	1.65*df*	1.55*d*	3.55‡*a*	3.55‡*a*	2.75	2.75	....	.21	11.80*g*
Dallas	3.57	2.82	2.52	2.00	2.15	1.75	2.10	2.05	....	....	.080*e*	.250	9.30
Denver	....	3.59	3.29	1.85	2.00	1.15	....	....	....	....	.20	.23*a*	9.65
Detroit	4.03	3.25	2.97	3.25‡	3.25‡	3.00‡	3.00‡	3.00‡	3.00‡	3.00‡	.17	.18*a*	9.60*f*
Kansas City	3.91	3.16	2.99	1.95	1.95	1.55	1.45*d*	1.45*d*	....	....	.17*eg*	.215*eh*	10.40*h*
Los Angeles	....	3.82*a*	3.42*a*	1.94‡*a*	2.04‡*a*	1.74‡*a*	1.94‡*a*	1.94‡*a*	....	....	.85*f*	....	10.05*h*
Minneapolis	4.09*cd*	3.34*cd*	3.05*cd*	2.30‡*ag*	2.30‡*ag*	1.35‡*ag*	2.50‡*ag*	2.50‡*ag*	....	....	.21*i*	....	10.40*fi*
Montreal	....	2.46*ac*	2.31*ac*	1.25*hi*	1.75*hi*	....	1.35*ij*	1.60*ij*	....	....	.2470	.1770*a*	8.95*ek*
New Orleans	....	3.07	2.75	2.32	2.32	1.82	....	....	1.05	1.25	.23	....	10.65
New York	4.21	3.46‡	3.15	2.00*bk*	2.00*bk*	1.45*bk*	2.25*bl*	2.25*bl*	....	....	.18*h*	.18*ah*	10.30*a*
Philadelphia	4.20‡	3.45‡	3.14‡	2.30‡	2.40‡	2.05‡	1.90‡	1.95‡	1.50	1.50	18/.22	....	9.85
Pittsburgh	4.15	3.43	3.10	2.05‡	2.05‡	3.00‡	2.50‡	2.50‡	2.05	2.05	.22*d*	.22*d*	11.00
St. Louis	3.80*b*	3.05*b*	2.75*b*	2.60‡*am*	2.40‡*am*	2.00-2.40‡*am*	1.60*ij*	1.60*ij*	1.70	1.15	.215	.24*ci*	10.40
San Francisco	....	3.38	2.98	1.84	1.84	1.94	1.94	....	....	....	....	.25*c*	10.75*c*
Seattle	....	3.45*a*	2.95*a*	2.75‡*bm*	2.75‡*bm*	2.75‡*bm*	3.50‡*bm*	3.50‡*bm*	....	....	.22*ij*	.3135	9.75*ij*

‡ Delivered. * Prices incl. dealers comm. except as noted.

CEMENT: *a* Subj. to 10¢ dis. *b* Less 2% for cash. *c* CL price dealers' comm. not incl. *d* Dealers sell only LCL.

SAND, GRAVEL, STONE & SLAG: *a* Truck lots. *b* Per cu. yd. *c* 5 tons or more. *d* F.o.b. plant. *e* ‡*. *f* Pea gravel. *g* Less 5% for cash. *h* Less than 5 tons. *i* Sales tax incl. *j* F.o.b. quarry. *k* Barge lots asd. *l* F.o.b. scow Hudson River. *m* Less 2% for cash.

CONCRETE BLOCK: *a* Cinder. *b* Waylite. *c* Haydite. *d* Celocrete. *e* 5¼ x 8 x 12 in. *f* 8 x 4 x 16 std. wgt. *g* F.o.b. truck at job. *h* F.o.b. plant *i* Less 2% for cash. *j* Less 1% for cash.

READY MIXED CONCRETE: *a* 5 cu. yds. or over del. Man. *b* 25 cu. yds. or more. *c* 10–100 cu. brackets. *d* Truck loads up to 500 cu. yds. *e* 2,000 lb. concr. *f* 2500 lb. comp. *g* Aver. haul 7–9 mi. zone. *h* Less 50¢ for cash. *i* 5% off for cash. *j* 2% off for cash. *k* Sales tax included.

CASH DISCOUNTS CEMENT to Contractors: Truck delivery, 2% for cash on 10th of month, on carload deliveries, no trucking, same as dealer cash discount 10¢ per bbl. for payment within 15 days of date of invoice. Subject discount 10c. per bbl. 20 days in Montreal.

CURRENT MAXIMUM PRICES AT CEMENT MILLS

Charge for bags not included. For cloth bags, add $1.05 per bbl.; 25¢ refund allowed for each returnable bag; for paper bags add 30¢ per bbl., not refundable.

	Bulk		Bulk		Bulk		Bulk		Bulk
Richard City, Tenn.	$2.40†	Buffington, Ind.	$2.20	Steelton, Minn.	$2.40	Muskegon, Mich.	$2.40†	Toledo, O.	$2.40†
Clinchfield, Ga.	2.40†	Independence, Kan.	2.30	Leeds, Ala.	2.25	Saginaw, Mich.	2.35†	Milwaukee, Wis.	2.40†
Kingsport, Tenn.	2.40†	Hannibal, Mo.	2.35	Duluth, Minn.	2.40	Wyandotte, Mich.	2.30†	Green Bay, Wis.	2.40†
West Des Moines, Iowa	2.30†	Northampton, Pa.	2.30	Hudson, N. Y.	2.30	Buffalo, N. Y.	2.40†	Ironton, O.	2.30
Nazareth, Pa.	2.30†	Universal, Pa.	2.30	Alpena, Mich.	2.25†	Oswego, N. Y.	2.40†	Montreal City	2.13
Bath, Pa.	2.30†	Waco, Tex. (+ 9¢ tax)	2.20	Detroit, Mich.	2.40†	Cleveland, O.	2.40†	W. Winfield, Pa.	2.30†

‡ *Prices to hold for second quarter of* 1949.

PAVING BRICK, BLOCK, ASPHALT, ROAD OILS—F. O. B. CITY

	PAVING BRICK AND BLOCK			PAVING ASPHALT Per ton, less than 80 penetration		ASPHALT BINDERS—FLUXES Per gal., 80-300 penetration		CUTBACK ASPHALT Per ton		ROAD OIL Per gal.	ASPHALT EMULSION (Quick-breaking) Per gal.	
	Granite Per M lots of 50,000 4x4x8 in. carload lots	Brick per M 3x4x8¼ in. carload lots	Wood per sq. yd. 3½ in. 16-lb. treat	Tank car	Drums	Tank car	Drums	Tank car	Drums	Tank car	Tank car	Drums
Atlanta	$73.00	$35.00	$2.25	....	....	$.095	$0.15	$.095*w*	$.17*w*	$.095*w*	$.095	$0.115
Baltimore	150.00‡	52.70‡	....	$23.00	....	....	....	....	....	....	....	....
Birmingham	....	32.50	....	....	....	....	....	....	....	....	....	....
Boston	....	....	....	24.50*a*	$35.50*a*	.1036*a*	.185*a*	.115*aw*	.205*aw*	.10*a*	.113*a*	.205*a*
Chicago	150.00‡*a*	85.00 88.00‡*b*	3.10-4.15‡*f*	21.10*b*	30.60*b*	20.10*e*	29.60*be*	.092-.095*bw*	....	.080-.08255	.1025-.1075*b*	.15-.16075*b*
Cincinnati	....	....	....	23.50*k*	....	.1025	....	.1030*w*	....	....	....	....
Cleveland	180.00	49.00‡	3.70*g*	25.00	35.00	25.00*e*	34.50*e*	.125*w*	.22*w*	.15	.125	.25
Dallas	*e*	40.00	*e*	23.95	42.99	.1012	1.898	26.99	47.77	.0987	.1062	.1423
Denver	....	43.00	....	....	....	....	....	....	....	....	....	....
Detroit	....	....	....	28.45	35.45	....	....	.1188*w*	....	....	....	.1975
Kansas City	....	40.00*d*	....	19.05*el*	....	....	....	.075*ew*	....	.065*e*	....	....
Los Angeles	*e*	....	*e*	16.10*dw*	31.60*dmp*	16.10*dv*	31.60*dp*	17.60*d*	24.60*dp*	16.10*dv*	.0825*j*	.1625*j*
Minneapolis	....	....	2.83*f*	27.00	37.00	23.00*v*	34.00*v*	27.00	37.00	.105	.13	.23
Montreal	137.00	....	....	25.00*n*	34.65*n*	15.80*mu*	20.05*mu*	15.70*mu*	17.70*mu*	14.20*mc*	.174*n*	.215*n*
New Orleans	....	....	....	20.00*c*	.... *o*	20.00*cv*	*o*	.095*cw*	.... *o*	.095	.0975	.16*q*
New York	....	....	2.50*f*	26.50	38.86*q*	25.50*v*	44.88*qv*	.1090*w*	.1917*qw*	.1040	.1090	.1897*q*
Philadelphia	150.00	80.00-90.00	4.06	23.00	....	22.00*v*	....	.095*w*	....	....	....	....
Pittsburgh	165.00	42.00	4.50	26.00	39.00	11	.23	27.00	40.00	.095	.10	.21
St. Louis	....	....	....	21.65*f*	....	....	....	....	....	....	.1081	.1075
San Francisco	....	57.75*c*	....	18.10*g*	32.60*gp*	18.10*gkv*	....	20.10*g*	....	....	.0825	.1625
Seattle	....	....	....	16.60*h*	37.10*h*	16.00*hv*	....	18.60*h*	22.60*hr*	17.10*hs*	.0825*h*	.0925*h*

‡ Delivered.

PAVING BRICK & BLOCK: *a* C.L. *b* 3½ x 4 x 8½. *c* 2½ x 8½ x 4. *d* F.o.b. Buffalo, Kans. *e* Not used. *f* 2" interior 6# treat. *g* 3".

ASPHALTS: *a* Price at plant, Everett, Mass. *b* F.o.b. refinery, Lockport, Ill. *c* F.o.b. Sugar Creek, Mo. *d* F.o.b. refinery, El Segunda. *e* F.o.b. Baton Rouge. *f* F.o.b. Wood River or Roxana, Ill. *g* F.o.b. Richmond, Calif. *h* F.o.b. Martinez. *i* Bulk refinery. *j* F.o.b. refinery, Englewood, Calif. *k* 50-300 penetr. *l* Less than 100 penetr. *m* 40-80 penetr. *n* Tax incl. *o* Drums not avail. *p* Shipped in steel bbl. *q* Use of reconditioned drums. *r* In customer's drums. *s* Shipped in drums, per drum. *t* 55-gal. drums. *u* Per 100 gal. *v* Per ton. *w* Per Gal.

IRON AND STEEL PRODUCTS—PER 100 LBS. BASE MILL PRICES

	STRUCT. SHAPES– PLATE	REINF. BARS[a][b]	RIVETS ½-in. struc- tural	SHEET PILING Base	STEEL RAILS Per Net Ton Standards	Light[cf]	Re-rolled	TRACK SUPPLIES Angle Bars	Std Spikes	Tie Plates[g]	Track Bolts[d]
Birmingham Area	$3.25	$3.35	$6.75	....	$64.00	$71.00	Not	$4.25	$5.35	$4.05	....
Chicago Area	3.25	3.35	6.75	$4.05	64.00	71.00	avail-	4.25	5.35	4.05	....
Pittsburgh Area	3.25	3.35	6.75	4.05	64.00	71.00	able	4.25	5.25	4.05	....
Buffalo Area	3.30	3.35	6.75	4.05	64.00	71.00	....	4.25	5.35	4.05	$8.50
Cleveland	....[e]	....	6.75	....	.....	.....	....	....	....	....	8.50
Youngstown Area	....	3.35	....	....	.....	.....	....	....	5.35	....	....
Geneva	3.25	....	....	....	.....	.....	....	....	....	....	....
Los Angeles	....	4.10	....	....	.....	.....	....	....	5.35	....	....
Pueblo	3.25	3.35	....	....	64.00	71.00	....	4.25	5.35	4.05	8.50

a Fabricated: To consumers: $4.25; except $5.00 Seattle, Wash. *b* Rail steel price $4.65; Williamsport, Pa. *c* Rail steel $102 per ton Williamsport, Pa. *d* Treated. Untreated $8.25. *e* Except $70.00 Indiana Harbor, Ind. and Minnequa, Colo. *f* Except $85.00 Minnequa, Colo. burg, Calif.; $4.50 Seattle, Wash. *g* Except $4.20 Pitts-

IRON AND STEEL PRODUCTS—F. O. B. WAREHOUSE, PER 100 LBS., BASE PRICE

	STRUCTURAL SHAPES Per 100 lb. base price	REINFORCING BARS,[g] Per 100 lb., base price[a] 5 tons to carload lot[b] New billet	Rail steel	Add switch	EXPANDED METAL LATH[k] Per 100 sq. yd., carload lots $/cwt for Del.	Std. diamond mesh, 3.4 lb.	Std. ribbed 3.4 lb.	WELDED FABRIC REINFORCING[dd] Per 100 sq. ft., carload lots 4x16 in., No. 5 & 10 wires	4x12 in., No. 8 & 12 wires	6x6 in., No. 6 & 6 wires
Atlanta	$4.75	$5.225[k]	$5.225[k]	$.025	$.10	$31.50	$31.50	F.o.b. Mill: Joliet, Illinois, Donora, Penn., $2.36 Monessen, Penn., $2.36	F.o.b. Mill: Joliet, Illinois, Donora, Penn., $1.63 Monessen, Penn., $1.04	F.o.b. Mill: Joliet, Illinois, Donora, Penn., $2.47 Monessen, Penn., $2.48
Baltimore	5.51	4.47[l]	....	....	.10	40.00	43.00			
Birmingham	5.15	5.15	5.50	.05	.15	43.00[p]	45.50[p]			
Boston	5.57[k]	5.46[k]	5.34[ke]	....	.10/.15	31.00	33.00			
Chicago	5.05	4.70[ff]	4.70[ff]	.05	....	31.00‡	33.00‡			
Cincinnati	5.45‡[r]	5.58[r]	....	....	....	31.00[zee]	35.00-[zee]			
Cleveland	5.20[hh]	4.37[r]	....	....	.10	34.50	36.50			
Dallas	6.50	6.50	6.50	....	....	43.50	46.00			
Denver	6.30	6.45[c]	....	....	....	47.00[s]	44.50[qs]			
Detroit	5.28	....	....	....	.10	33.00[z]	44.00[q]			
Kansas City	5.50	4.90[d]	5.10	....	....	37.00	39.00			
Los Angeles	5.75[f]	6.15[bb]	....	....	.15	37.00[ff]	41.00[ekk]			
Minneapolis	5.20[ee]	5.20[ll]	5.20[ll]	....	.15	34.50	36.50			
Montreal	5.25[i]	5.15[i]	5.15[i]	....	....	44.10[h]	46.80[h]			
New Orleans	....	5.00[ok]	....	.05	.10	32.00	32.00			
New York	5.13[r]	5.50	5.50	....	.15/.20	34.50[st]	36.50[st]			
Philadelphia	5.25	5.36	....	....	....	30.00‡	32.00‡			
Pittsburgh	4.40/4.50	4.40/4.50	4.40/4.50	.05	.10	32.50	34.50			
St. Louis	5.42[k]	5.28[c]	5.28[c]	....	....	42.00[aa]	48.00[aa]			
San Francisco	5.90[ii]	5.65	....	....	....	36.50	38.50			
Seattle	4.30[e]	5.25[d]	....	....	....	52.00[mm]	42.00[mm]			

‡ Delivered. *a* Mill prices. *b* 1–5 tons, add 35c. Less than 1 ton, add 50c. *c* 20 tons or over base. *d* Mill price plus freight. *e* F.o.b. plant. *f* Includes delivery in free delivery zone. *g* High scrap steel prices cut former 15c differences between new billet and rail steel. *h* List price. Dominion tax exempt. Provincial and Municipal tax extra. *i* Plus Dominion, Provincial and Municipal sales tax. *j* Price per ton. *k* F.o.b. city. *l* Intermediate and hard grade, new billet. *m* Per sq. yd. *o* 5 to 15 tons base. *p* Del. of 5000 sq. yd. or less. *q* Std. ribbed. 4 lb. per sq. yd. *r* 5 tons or over. *s* LCL. *t* Asphalt coated. *u* Note: Revised size extra—1 in., 1¼ in., 1½ in. 10c, ¾ in., ⅞ in. 15c, ½ in. 20c, ⅜ in. 35c, ¼ in. 55c, ¼ in. $1.30. *v* Under 20 tons. Straight. *w* Copper bearing. *x* 2.5 lb. per sq. yd. *y* $.0093 transportation tax included. *z* Copper alloy. *aa* Delivered truck to job. Contractor to do unloading. *bb* Includes 55c extra for ¼ in. size. *cc* Up to 14,999 lbs. *dd* F.o.b. dock. *ee* F.o.b. cars. *ff* Carload lots. *gg* Including sales tax. *hh* Delivered price is $5.20 *ii* Rolled at Geneva mill. Shapes rolled at Fontana, $6.90. *kk* ⅜" ribbed. *ll* 5 to 8 tons. *mm* 2%, off for cash.

PLUMBING, HEATING, WATER, SEWER AND DRAIN PIPE

Mill	*C. I. PIPE Per net ton f.o.b. 6 in. to 24 in.[a]	VITRIFIED SEWER PIPE Per foot, Delivered ASTM C13–44T std. 8 in. s.s.	std. 12 in. s.s.	24 in. ds.	36 in. ds.	CLAY DRAIN TILE ASTM C4–24 Per 1,000 ft., carload lots, f.o.b. 6 in.	8 in.	CONCRETE SEWER PIPE Per ft., delivered; ASTMC 14–41 12 in.	24 in.
Atlanta	$93.50	$0.43	$0.67	$3.39	$7.00	$114.00	$140.00	$0.45	$2.00
Baltimore	97.86	.52	.975	4.21	9.34	178.20	228.00	.80	2.25
Birmingham	85.50	.40	.72	2.84	....	210.00‡	375.00‡	.90	2.50
Boston	101.46	.441[uvx]	.850[5uvx]	3.87[uvy]	10.36[uvy]	173.40	267.60	1.45‡[mq]	3.60‡[mq]
Chicago	100.49	.59	1.14	4.81	13.45	150.00‡	270.00‡	.70	2.35
Cincinnati	98.90	.441	.8505	3.51	9.53	220.00‡	340.00‡	.60	2.25‡
Cleveland	101.13	.357[z]	.6885[z]	3.015[z]	8.405[z]	147.50	231.00	.65	2.50
Dallas	103.28	.365	.657	2.63	6.25	.....	.....	.49	1.60
Denver	108.36	.414[dd]	.714[dd]	2.98[dd]	....	.....	.....	.74[dd]	2.50[dd]
Detroit	96.13	.553	1.10	4.20	12.75	210.00‡[m]	300.00‡[m]	.65	2.50
Kansas City	102.41	.418[m]	.76[m]	3.00[m]	.....	215.00[m]	375.00[m]	.60[l]	2.00[l]
Los Angeles	115.06	.426	.927	4.532	11.298	193.00‡	324.00‡	.72	....
Minneapolis	104.67	.62[mo]	1.12[mo]	4.35[mo]	.....	.....	.....	1.29[h]	3.67[h]
Montreal	100.00	.77[x]	1.35[x]	4.47[x]	8.50[ex]	.60[p]	.48[p]	75.00[jkaa]	240.00[jkaa]
New Orleans	96.68	.412	.762	3.955	9.15	231.00[bb]	405.00[bb]	.55	1.95
New York	96.80/101.50	.62	1.14	4.45	12.30	.....	.....	1.00	2.50
Philadelphia	94.97	.54	.99	4.08	10.28	235.00‡	300.00‡	1.25[h]	3.20[h]
Pittsburgh	101.76	.364[m]	.702[m]	2.70[m]	6.628[m]	134.20	197.40	1.05[h]	2.50[p]
St. Louis	98.27	.48	.87	3.42	8.05	.....	.....	1.10[il]	2.25[kl]
San Francisco	115.06	.50[d]	.99[d]	4.32	10.80	188.00[dl]	313.00[dl]	.69	2.85
Seattle	116.95	.51[b]	.91[b]	....	....	150.00[c]	.....	.80[ee]	2.40

‡ Delivered. † F.o.b. *a* B. & S. class B and heavier, CL, Burlington, N. J. (base) $98.50. Based on existing freight rates; subject to rate change. Gas pipe and class A, $5 per ton additional. 4 in., $5 per ton additional. 30 in. and larger, usually $1 per ton less. *b* Extra strength ASTM C 200–44T. *c* 4 in., $90. *d* SS361-A. *e* 30 in. *g* Culvert pipe. Reinforced, ASTM C76–41. *h* Reinforced. ASTM C75–41. *i* Reinforced. ASTM C76–37. *j* Centrispun. *k* Per 100 ft. *l* f.o.b. plant. *m* Truck delivery. *o* Listed price is based on LCL (no minimum). *p* Less than 5 ton loads, price per ft. *t* Within switching limits. *u* ASTM C13–40. f.o.b. city. *x* 2 ft. lengths. *y* 3 ft. lengths. *z* CESA A 60–1941 specifications used. *aa* No standard specifications in Can. *bb* Freight allowed to destination in city. *cc* Truck loads; f.o.b. plant, Newton. *dd* LCL, delivered, f.o.b. truck. *ee* 1 % off for cash *Another $4 reduction announced May 1, 1949.

*WROUGHT STEEL PIPE (Full standard weight)

Mill	2½ & 3 in. Butt Weld Black	2½ & 3 in. Butt Weld Galv.	3½ to 6 in. Lap Weld Black	3½ to 6 in. Lap Weld Galv.	7 in. Lap Weld Black	7 in. Lap Weld Galv.	8 in. Lap Weld Black	8 in. Lap Weld Galv.	9 in. Lap Weld Black	9 in. Lap Weld Galv.	10 in. Lap Weld Black	10 in. Lap Weld Galv.	12 in. Lap Weld Black	12 in. Lap Weld Galv.
Lorain, Ohio	50.5	35.5	46.5a	27.0	46.5a	27.0a	46.5a	27.0a	46.5a	27.0a	46.5a	27.0a	46.5a	27.0a
Aliquippa, Pa	49.5	34.5	44.5	24.5	44.5	24.5	44.5	24.5	44.5	24.5	44.5	24.5	44.5	24.5
Sparrows Pt., Md	48.5	28.5	42.5	23.5	42.5	23.5	42.5	23.5	42.5	23.5	42.5	23.5	42.5	23.5
Benwood, W. Va	50.5	30.5	48.5	27.5	48.5	27.5	48.5	27.5	48.5	27.5	48.5	27.5	48.5	27.5
Youngstown, O	50.5	32.5												
Indiana Harbor, Ind.	49.5	1.5												
Sharon, Pa	48.0	28.5												
Wheatland, Pa	49.5	31.5												
Alpine, Pa	50.5b	33.0b	44.0b	24.0b	44.0b	24.0b	44.0b	24.0b	44.0b	24.0b	44.0b	24.0b	44.0b	24.0b
Ellwood City, Pa	19.5b	+ .5b	+ .5b	+ 7.0b	+ .5b	+ 7.0b	+ .5b	+ 7.0b	+ .5b	+ 7.0b	+ .5b	+ 7.0b	+ .5b	+ 7.0b
Fontana, Calif	a 3½ to 4 in. b Continuous weld													

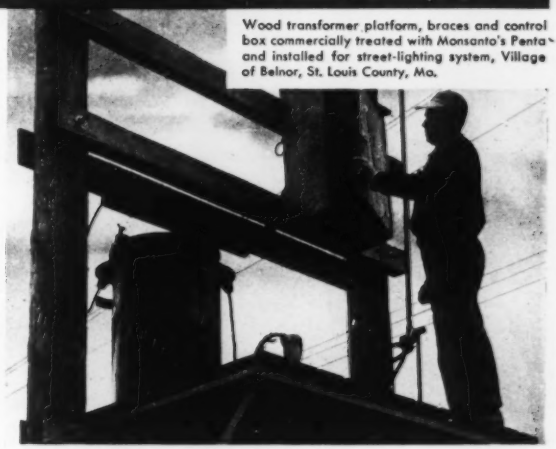
a Threaded and coupled.

* WROUGHT STEEL PIPE: Discounts from standard list consumers carload prices. Base price approx. $200 per net ton. List prices per ft.: *Butt Weld:* ¼ in., 5½c; ⅜ in., 6c; ½ in., 6c; ¾ in., 8½c; 1 in., 11½c; 1 in., 17c; 1¼ in., 23c; 1½ in., 27½c; 2 in., 37c; 2½ in., 58½c; 3 in., 76½c. *Lap weld:* 3½ in., 92c; 4 in., $1.09; 5 in., $1.48; 6 in., $1.92. Freight rates to destination to be added to price plus 3 percent tax on transportation.

WROUGHT IRON PIPE: List prices per ft. same as wrought steel pipe. Discount for Pittsburgh base. *Butt weld* — 1 in. and 1¼ in. black, +4.5, galv. +30.0; 1½ in. black, 1.5, galv. +26.5; 2 in. black 2, galv. +26.0. *Lap weld* — 2½ in. to 3½ in. black + 5, galv. +29.5; 4½ in. to 8 in. black + 2, galv. +25.0. Freight rates to destination to be added to name delivered price.

this can't happen here

These rotten, unsafe wooden members were replaced with Monsanto Penta-treated material.



Wood transformer platform, braces and control box commercially treated with Monsanto's Penta and installed for street-lighting system, Village of Belnor, St. Louis County, Mo.

PENTA

(Santophen 20)

CHLOROPHENOL preservative

Treatment with Monsanto's Penta will add years to the service life of your wood construction. It provides long-lasting protection against decay, termites and other wood-destroying insects, yet leaves wood CLEAN and workable . . . Penta-treated material is dark or light-colored, depending upon the oil solvent used. In either case, it is still CLEAN and non-staining.

Monsanto's Penta penetrates thoroughly. Protection *stays* in the wood, resists leaching by moisture, remains effective under high humidity. Furthermore, Penta is a definite chemical entity — its characteristics are always constant, always laboratory-controlled.

Men who plan or maintain industrial wood construction quickly recognize the advantages of Monsanto's Penta —described in the booklet, "Monsanto Pentachlorophenol for Preserving Wood in Industrial Construction." Send for your free copy today. MONSANTO CHEMICAL COMPANY, Desk E, Organic Chemicals Division, 1759 South Second St., St. Louis 4, Missouri.

MONSANTO
CHEMICALS for PLASTICS

Santophen, Reg. U. S. Pat. Off.

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1759 South Second Street, St. Louis 4, Missouri
Please send me a copy of your booklet on Penta for Industrial Construction.

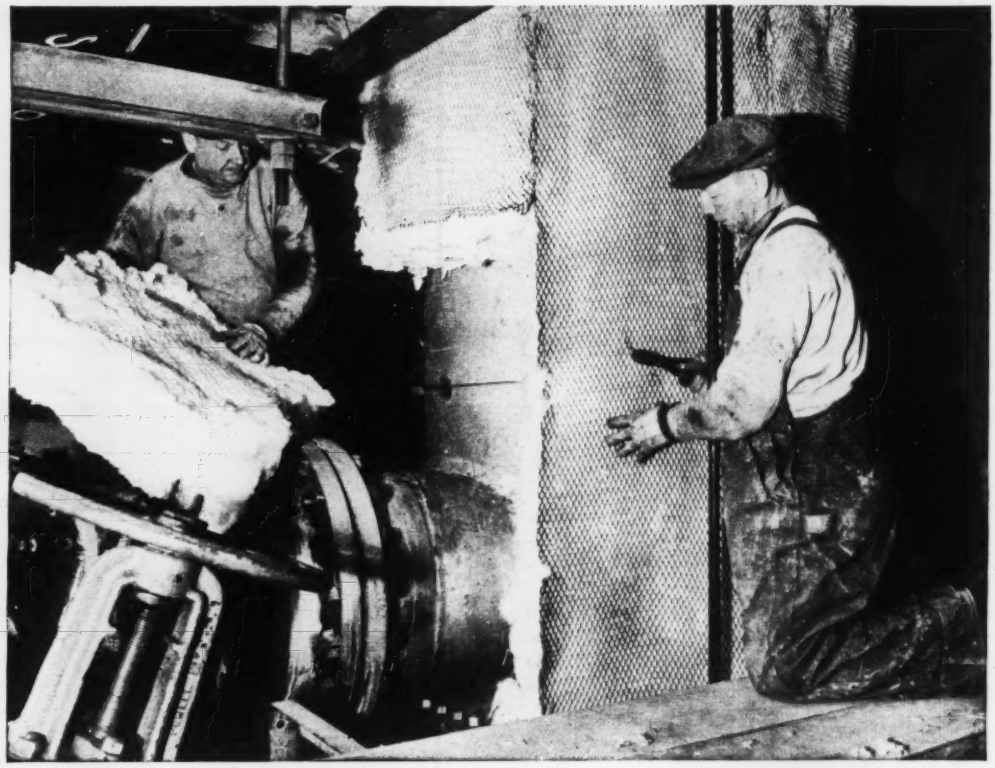
*Name*_____ *Title*_____

*Company*_____

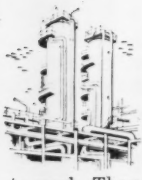
*Address*_____

*City*_____ *State*_____

SERVING INDUSTRY . . . WHICH SERVES MANKIND



Where there's heat *and* H_2S, specify FIBERGLAS* insulation



On those tough jobs around refineries and chemical plants, those places where you pit insulation against heat in a corrosive acid atmosphere, put Fiberglas Thermal Insulations to work. They do a top-efficiency job of keeping the Btu's in their place, and give extra years of service against acid products.

You can get Fiberglas Insulating Material for any kind of job . . . hot or cold, flat surfaces or irregular shapes. All types are formed from small-diameter strands of glass in a jack-straw arrangement to give maximum insulating efficiency with minimum weight. And being glass, these insulations cannot rot or be corroded by acids, will not feed flames.

The cost of Fiberglas Insulations is as low as any other comparable insulation, lower than most. Easy to apply by standard methods. Ask your local Fiberglas Sales Office, in 27 leading cities, for a copy of "Fiberglas in Industry", a 12-page technical booklet. Or write to Owens-Corning Fiberglas Corp., Department 952, Toledo 1, Ohio.

OWENS-CORNING
FIBERGLAS
THERMAL INSULATING MATERIALS

*Fiberglas is the trade-mark (Reg. U. S. Pat. Off.) of Owens-Corning Fiberglas Corporation for a variety of products made of or with glass fibers.

LUMBER, TIMBER, PLYWOOD—PER M FT., B.M., CARLOAD LOTS F. O. B.

	SHORT LEAF YELLOW PINE AND DOUGLAS FIR — All S. L. Y. P. is No. 2 common or better and for No. 1 N. C. Box. (Prices in Bold Face) — All Fir planks No. 2 common, Fir timber is No. 1 common. Lengths up to 20 ft. (Prices in italics)								LONG LEAF Y. P. Merchantable grade up to 20 ft.		PLYWOOD Rail freight increment* (See note for base price)	
	1x6 s4s	1x8 s4s	2x4 s4s	2x6 s4s	2x8 s4s	2x10 s4s	3x12 Rgh	6x12 Rgh	12x12 Rgh	2x12 Rgh	12x12 Rgh	¼"	⅜"
Atlanta	l $70.00	$71.00	$60.00	$62.00	$65.00	$68.00	$70.00	.....	.....	.....	.....	$22.32	$27.24
Baltimore	65.00	65.00	60.00	62.00	f4.00	68.00	85.00	.....	.....	165.00	165.00	22.86	27.90
	82.00	*82.00*	*78.00*	*78.00*	*78.00*	*78.00*	*84.50*	*81.00*	*81.00*	.....	.....	.....	.....
Birmingham	l 83.00	87.50	73.00	75.00	78.00	82.50	95.00	.....	.....	130.00	125.00	21.78	26.58
	l *80.00*	*80.00*	*77.00*	*77.00*	*77.00*	*77.00*	*93.00*	*93.00*	*93.00*	.....	.....	.....	.....
Boston	78.00[3]	78/83[3]	83.00[3]	83.00[3]	83.00[4]	88.00[4]	.....	.....	.....	105.00	105.00	22.86	27.90
	90.00	*90.00*	*92.00*	*80.00*	*80.00*	*100.00*	*100.00*	*100.00*	*100.00*	.....	.....	.....	.....
Chicago	‡ 84.00	89.00	79.00	81.00	83.00	89.00	93.00	.....	.....	116.00	116.00	18.72	22.80
	‡ *84.00*	*87.00*	*85.00*	*86.00*	*87.00*	*87.00*	*88.00*	*92.00*	*92.00*	.....	.....	.....	.....
Cincinnati	88.00	100.00	85.00	90.00	97.50	98.00	110.00	.....	.....	150.00	150.00	21.78	26.58
	125.00	*125.00*	*90.00*	*100.00*	*120.00*	*120.00*	*120.00*	*130.00*	*130/135*	.....	.....	.....	.....
Cleveland	70.00	72.00	65 69	73 75	73 75	83/85	93.00	.....	.....	.....	.....	22.20	27.12
Dallas	l 58.00	61.00	61.00	57.00	58.00	61.00	90.00	.....	.....	82.50	90.00	18.72	22.80
Denver	*Not in stock*		*97.00*	*95.00*	*95.00*	*95.00*	*101.00*	*117.00*	*118.00*	.....	.....	13.92	16.98
Detroit	76.00	80.00	63.00	75.00	82.00	82.00	.....	.....	.....	.....	.....	21.78	26.58
	80.00	*82.00*	*80.00*	*81.00*	*80.00*	*80.00*	.....	.....	.....	.....	.....	.....	.....
Kansas City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16.56	20.16
	b *85.00*	*82.50*	*89.75*	*90.00*	*90.00*	*90.00*	*99.00*	.....	.....	.....	.....	.....	.....
Los Angeles	a *73.00*	*73.00*	*73.00*	*73.00*	*73.00*	*73.00*	*85.00*	*95.00*	*85.00*	.....	.....	13.38g/h	16.26g/h
Minneapolis	b *105.00*	*105.00*	*105.00*	*105.00*	*105.00*	*105.00*	.....	.....	.....	.....	.....	16.56	20.16
Montreal	e 73.00	76.00	73.00	75.00	76.00	85.00	.....	.....	.....	.....	.....	.....	.....
	155.00	*155.00*	*155.00*	*155.00*	*155.00*	*155.00*	.....	*135.00*	.....	.....	.....	.....	.....
New Orleans	l 66.00	70.00	70.00	75.00	75.00	70.00	*85.00*	.....	.....	100.00	105.00	18.72	22.80
	l *68.70*	*68.70*	*71.00*	*75.00*	*78.50*	*72.50*	*67.00*	*67.00*	*67.00*	.....	.....	.....	.....
New York	‡ 80/85	82.50/87.50	Range from $72.50 to $82.50				95/100	.....	.....	175/200†	175/200†	22.86	27.90
	‡	.....	*Range from $92.50 to $97.00*				.....	*105/120*	*105/120*	.....	.....	.....	.....
Philadelphia			Range from $90.00 to $100.00					.....	.....	166.00	166.00	22.86	27.90
			Range from $105.00 to $115.00					*122.00*	*122.00*	.....	.....	.....	.....
Pittsburgh	l 75/80	75/80	75/80	75/80	75/80	70/86	100.00	.....	.....	.....	.....	22.56	27.48
	l *90/110*	*90/110*	*90/110*	*90/110*	*90/110*	*100/110*	*110/120*	*120.00*	*120.00*	.....	.....	.....	.....
St. Louis	‡j 85.00	87.25	74.25m	74.25m	91.75n	94.00n	95.00	.....	.....	104.75	*137.50*	18.72	22.80
	‡j	.....	*99.50n*	*101.25n*	*102.25n*	*102.25n*	*106.50*	*130.00*	*130.00*	.....	.....	.....	.....
San Francisco	d *68.00*	*68.00*	*68.00*	*66.00*	*66.00*	*65.00*	*65.00*	*65.00*	*65.00*	.....	.....	10.08g	12.30g
Seattle	l *62.50i*	*62.50i*	*62.50i*	*62.50i*	*62.50i*	*62.50i*	*62.50i*	*62.50i*	*62.50i*	.....	.....	.....	.....

Bold Face type, Southern Pine. *Italics, Douglas Fir.* [3] Spruce. [4] Western Pine No. 3 Common. ‡ Delivered. *a* Yard prices. *b* Retail prices, less than CL. *c* 5 M ft. or less. *d* Direct mill prices; f.o.b. purchasers carrier or truck. *e* Tax exempt. *g* Lower rate by water shipment. *h* 50,000 lb. minimum. *i* No. 1 common. *j* Delivered in 5000 ft. lots. *k* These are retail yard prices quoted per truck load in Greater Cleveland. Less 2% for cash. Truck lots. *l* F.o.b. mill. *m* 8 to 12 ft. lengths. *n* 8 to 16 ft. lengths.

Note: Special concrete form grade Fir Plywood, 4' by 8' panels, 5-ply, sanded 2 sides, water resistant glue, carload lots, delivered per 1,000 sq. ft. surface. Seattle base price on ¼", $145.00; on ⅜", $175.00. For other centers add rail freight increment from table on proper size. Oiling and edge sealing charges included.

† 18 ft. and under. *Freight rate increase of 4¢ per cwt., effective Jan. 11, not included in these figures.

GLASS, EXPLOSIVES, CHEMICALS

	WINDOW GLASS — Discounts from jobbers list, Jan. 16, 1946*a* — Single or Double Thickness A quality	B quality	EXPLOSIVES — Per lb. 40% Ammonia Gelatin in 50 lb. cases delivered in 200 lb. lots*	
Atlanta	76%	76%	$0.2025	Price of 60% Ammonia Gelatin is $0.0125 per lb. higher than 40%
Baltimore	70–10%	71–10%	.2025	
Birmingham	68%	68%	.1575	
Boston	.....	60%*i*	.2025	
Chicago	67%	67%	.2025	
Cincinnati	62–10%*e*	62–10%*e*	.2025	
Cleveland	62–10–10–10%	62–10–10–10%	.2425	
Dallas	65%	65%	.215	
Denver	66%	66%	.2075	
Detroit	62–10–10%	62–10–10%	.2025	
Kansas City	65%*e*	65%*e*	.2075	
Los Angeles	58%	63%*f*	.21	
Minneapolis	64%	64%	.2075	
Montreal	40–5%*bc*	40–10–5%*bc*	18.90*h*	
New Orleans	68%	68%	.2125	
New York	71%	72%	.32*g*	
Philadelphia	70%	70%	.2025	
Pittsburgh	70%	70%	.175	
St. Louis	70–10%	70–10%	.2075	
San Francisco	66%	73%	.2075	
Seattle	54%	55%	.21	

Glass: a Jobbers' list price per box, 14 x 20, ss, $20.75 for A quality, $18.00 for B quality; 14 x 20, ds, $30.75 for A quality, $26.00 for B quality. *b* Discount from list, Sept. 1939; sales tax included, but 6% tax exemption not allowable for. *c* Single thickness. *e* Discount from list of Aug. 15, 1938. *f* ss; ds—62%. *i* Double thickness 65%.

Explosives: * Urban prices influenced by service charges or local storage and delivery regulations do not consistently reflect quantity prices in less congested areas. *g* In borough of Kings, Queens, and Richmond and in Manhattan south of Canal St., add delivery charge of $9.00 per trip. *h* F.o.b. city per 100 lb. forcite, 40%. Forcite 60%, $20.65.

40% Ammonia Gelatin price ranges in other than urban areas, per lb. (except Seismograph Grades)

	C. L. 20,000 lb. net	Tons	200 lb. lots
E. of the Miss., except Fla. and Me.	$0.155	* $0.1825	$0.2025
W. of Miss. to Rocky Mtn. States, Fla. and Maine	.16 – .1675	.1875– .20	.2075– .22
Rocky Mtn. States	.16 – .1725	.1875– .20	.2075– .225
Pacific N. W. States	.1575– .17	.19 – .2025	.21 – .2225
Pacific S. W. States	.155 – .1625	.1875– .195	.2075– .2175

PILES, TIES F. O. B.

PILES

Prices per linear foot, fir and pine, bark on, f.o.b. cars, New York. Fir based on Wash. and Ore. points to New York shipping area; pine based on freight from Norfolk.

Dimensions	Points	Length	By Rail — Pine*	Fir
12-in. at butt	6-in.	30 to 50-ft.	$0.36	....
12-in.— 2-ft. from butt	6-in.	50 to 59-ft.	.39	....
12-in.— 2-ft. from butt	6-in.	60 to 69-ft.	.43	....
12-in.— 2-ft. from butt	6-in.	90 to 100-ft.	....	.72
13-in.— 3-ft. from butt	5-in.	91 to 100-ft.	....	.73
14-in.— 2-ft. from butt	6-in.	50 to 69-ft.	.43	.80
14-in.— 2-ft. from butt	6-in.	70 to 79-ft.	.47	.74
14-in.— 2-ft. from butt	5-in.	80 to 85-ft.	.60	.75
14-in.— 2-ft. from butt	5-in.	85 to 89-ft.	....	.76
14-in.— 2-ft. from butt	5-in.	90 to 100-ft.	....	.80

* Pine piling over 80-ft. available only in limited quantities.

RAILWAY TIES

Prices f.o.b. per tie for carload lots:		6"x8"x8' Untr.	6"x8"x8' Tr.	7"x9"x8'6" Untr.	7"x9"x8'6" Tr.
Boston	Oak	....	....	....	....
	Pine	....	....	....	....
New York	S. L. Sap Pine	$1.65	$2.85	$2.00	$3.30
	Mixed Oak	1.80	3.05	2.50	3.60
Birmingham	Hardwood	1.00	1.60*a*	....	2.25*a*
Chicago	Red Oak	....	2.55/2.60*a*	....	3.40/3.65*a*
Los Angeles	Douglas Fir	....	3.00*a*	....	....
	Redwood	1.86	....	....	....
Philadelphia	Red Oak	2.33	3.13	3.10	4.25*a*
St. Louis	White Oak	2.42	....	3.22	....
	Red Oak	2.32	2.97*a*	3.12	4.05*a*
	Sap Pine or Cypress	3.04*a*	....	....	....
San Francisco	Douglas Fir	1.28*e*	2.24*f*	1.70*bf*	3.05*caf*
Montreal	Birch or Maple	....*h*	....*h*	....*h*	....*h*

Tr.— Treated; Untr.— Untreated. *a* Creosoted. *b* 7" x 9" x 8'. *c* Empty cell. *e* Green. *f* F.o.b. cars. *h* No constant price available. *i* Not available

CHEMICALS

Water, sewage treatment, road work, f.o.b. carlots, New York

Bleaching powder in drums f.o.b. works, per 100 lb.	$4.25
Chlorine cylinders, liquid, per lb. f.o.b. works	.07–.12
Calcium chloride, 77–80%, flaked, 100-lb. paper bag, f.o.b. works, ton	22.00
Silicate of soda, 52 deg., in drums, f.o.b. works, per 100 lb.	1.80
Soda ash, 58%, in paper bags, per 100 lb. dense	1.50
Sulphate of aluminum, commercial, in 100-lb. bags f.o.b. works	1.50
Sulphate of copper, in bags, 99% per 100 lb f.o.b. works	8.10

STRUCTURAL CLAY BUILDING TILE, BRICK AND LIME—DELIVERED

	STRUCTURAL CLAY TILE PARTITION — SCORED Per M. lots of 2,000 pieces or over.			STRUCTURAL CLAY TILE — LOAD BEARING — SCORED Per M. lots of 2,000 pieces or over.			BRICK Per M. in quantity		LIME Per ton. In paper, Carload lot.		
	3x12x12 in.	4x12x12 in.	8x12x12 in.	8x12x12 in.	10x12x12 in.	12x12x12 in.	Common backing	Straight hard	Hydrated finishing	Common hydrated	Pulverized, or lump
Atlanta	.....	.....	.....	.....	.....	.....	$25.00	$25.00	$19.00	$17.50	$17.50
Baltimore	$170.00	$180.00	$320.00	$375.00	.....	.....	32.00*k*	35.00*k*	30.00	20.00	.....
Birmingham	97.50	104.00	195.00	231.00	.....	.....	20.00*ff*	22.50*gg*	24.67	18.10	.....
Boston	145.65†	155.35†	291.30†	330.15†	.....	.....	32.00*i*	35.00*i*	30.80†	26.40†	.....
Chicago	115.00	122.50	230.00	.....	.....	.....	21.00	23.00	27.00	19.50	.....
Cincinnati	170.00*j*	180.00*j*	240.00*jdd*	330.00*j*	330.00*j*	330.00*j*	34.00*j*	34.00*j*	22.25*j*	20.50*j*	.....
Cleveland	118.00*cc*	126.00*cc*	236.00*cc*	.....	.....	.....	28.50	28.50	24.00	22.00	27.50*ss*
Dallas	.....	110.00	.....	.....	.....	.....	18.75	33.25	28.00	22.00	.....
Denver	.....	.....	.....	.....	.....	.....	32.00	32.00	34.80*bb*	28.00*bb*	34.00*bb*
Detroit	117.08	124.88	234.15	234.15	$290.68	$332.20	30.00*cc*	31.50*cc*	30.00	28.00	28.00
Kansas City	115.50	122.50	.....	245.00	305.50	367.00	22.63*o*	25.12*o*	36.00*p*	30.00*p*	30.00*p*
Los Angeles	*r*	*r*	*r*	*r*	*r*	*r*	20.00§	.....	.....	36.00	35.00
Minneapolis	152.00*p*	176.00*p*	317.00*p*	176.00*wp*	.....	.....	30.00*rp*	.....	35.00*bbe*	26.00*bbe*	35.00*bbds*
Montreal	110.00*aq*	120.00*aq*	225.00*aq*	.....	.....	.....	25.50	37.00	12.50*ub*	14.00*ub*	.....
New Orleans	160.00	160.00	300.00	.....	.....	.....	29.00	.....	38.00	26.00	37.50
New York	118.20*cA*	126.00*cA*	173.30*cA*	189.00*An*	.....	.....	33.00	.....	34.40	26.80	.....
Philadelphia	126.30	134.80	252.60	302.74	361.35	455.74	27.00	30.00	29.75	17.50	24.50
Pittsburgh	98.50	105.80	181.85	207.30	265.85	303.60	26.00	38.00*y*	20.45	16.65	2.97*m*
St. Louis	120.00	138.50	252.50	252.50	339.50	.....	32.50*al*	30.50*al*	80*aaap*	60*aaap*	1.00*aaspss*
San Francisco	132.00*a*	148.50*a*	198.00*dda*	148.50*ta*	.....	.....	30.00	.....	24.95	24.95	2.49*m*
Seattle	150.00*cc*	160.00*cc*	.....	160.00*ccvc*	.....	.....	32.00*s*	39.00*s*	32.00*aAA*	32.00*aAA*	3.60*mAA*

† F.o.b. *a* Smooth. *b* Per 50 lb. bags. *c* 6 x 12 x 12 in.-3 cell. *d* Pulverized hot. *e* 5% - 10th following month. *g* 5½ x 8 x 12. *h* F.o.b. trucks, job site N.Y.C. *i* F.o.b. warehouse only. *j* Truck load or over. *k* $1.00 discount. Red face. *m* Per bbl., 180 lb. *n* 7½ x 7½ x 12. Speed tile. *o* F.o.b. Buffalo. *p* Truck lots. *q* Provincial and Municipal tax extra. *r* Not used because of earthquake danger. *s* 2% discount for cash. *t* 5½ x 8 x 11½. *u* Tax exempt. *v* Sand lime. *w* 5 x 8 x 12. *y* Stacked. *z* Pebble lime price per 80 lb. sack. *aa* Price per sack. Lime not sold per ton. *bb* LCL. *cc* Truck delivery. *dd* 6 x 12 x 12. *ee* Pebble lime. *ff* 80% common. *gg* Select. *hA* LCL.

PAINT, ROOFING—F.O.B. CARLOAD LOTS

	RED LEAD Per 100 lb. in 600-lb. (Approx.) bbl.	WHITE LEAD Per 100 lb. in 100 lb. cases	READY-MIXED PAINT Per gal., drums			ROOFING SUPPLIES Carload lots f.o.b. factory				
	Dry *a*	In oil *w*	Graphite *b*	Aluminum *c*	Ferric Oxide *d*	Rolls, slate surfaced, 85-90 lb. per sq.	Asphalt felt, per 100 lb.	Tar felt, per 100 lb.	Asphalt coating per gal.	Tar pitch 360 lb. bbl. per ton
Atlanta	$19.00	$28.625	$1.75	$2.70	$1.65	$2.06‡	$2.06‡	$2.06‡	$1.00‡	$36.00‡
Baltimore	18.75	28.25	2.25	3.50	2.75	2.75	3.30	3.30	.55	36.00‡
Birmingham	19.00	28.625	4.40	4.52	....	3.05	3.00	3.00	.48	42.00*ee*
Boston	18.75	28.25	....	....	....	....	....	2.75‡*q*	....	34.00
Chicago	18.75	28.25	....	....	....	2.47‡*u*	2.67‡*o*	2.67‡*o*	35.00‡*bbs*	38.00‡
Cincinnati	18.75	28.25	....	....	....	2.44‡	2.54‡*o*	2.54‡*o*	.35*y*‡	42.00‡
Cleveland	18.75	28.25	3.00	3.00*a*	3.00	2.44	2.54*o*	2.54*o*	.32*y*	38.00
Dallas	19.00	29.00	....	4.05	....	3.50*q*	3.75*q*	4.35*q*	.36	46.00
Denver	19.25	28.75	2.88	4.38	2.63	3.20*o*	3.13*o*	2.54*o*	.41*ff*	40.00
Detroit	18.75	28.25	3.24	2.72	3.60	2.51	2.51	2.51	....	36.00
Kansas City	18.75	28.375	2.40*q*	3.35*q*	....	....	....	....	.36*y*	....
Los Angeles	18.75	28.50	2.80	4.00	3.80	2.41	1.41*e*	*l*	.45	*l*
Minneapolis	18.75	28.375	....	....	....	2.32*idd*	2.41*hidd*	2.41*hidd*	.336*idd*	35.00*rdd*
Montreal	.....	25.65	3.25*t*	4.20*t*	3.62*t*	3.25*t*	3.00*tf*	3.00*tf*	.73*t*	2.60*ht*
New York	18.75	28.25	3.45*y*	....	3.45*y*	2.32	2.41*o*	2.41*o*	.34*s*	35.00
Philadelphia	18.75	28.25	3.25	3.65	3.15	2.54	2.94	2.94	.37	26.00
Pittsburgh	18.75	28.25	2.00	2.40	1.90	3.00	3.10*o*	3.10*o*	.57	40.00
St. Louis	18.75	28.25	....	....	....	2.23	2.413*h*	2.413*h*	.36	36.00
San Francisco	18.75	28.50	1.80	2.75*n*	1.35	2.27*x*	3.30*aa*	....	.38*y*	....
Seattle	18.75	28.75	2.95*m*	2.95*m*	....	3.25*mqcc*	3.35*hmcc*	....	.49*mcc*	58.58*jmcc*

‡ Delivered. Note: Red lead in oil 50c higher than white lead in oil. *a* Red lead prices change frequently due to pig lead price changes. *b* U. S. War Dept. Spec. 3-49A. *c* ASTM Spec. D266-31. *d* 80% minimum ferric oxide. *e* 15 lb. *f* Per 432 sq. ft. *g* 55 gal. drums. *h* Per roll, 65 lb. *i* Net carload lot prices. Minneapolis and vicinity. *j* Asphalt patch. *k* Per cwt. *l* Not used. *m* 1% discount for cash. *n* May, 1941 price. *o* Per 60-lb. roll. *q* Per 90-lb. roll. *r* F.o.b. factory Chicago. *s* ASTM Spec. D266-41. *t* Federal tax included. *u* Per 90 lb. square. *v* Per ton. *w* Price to large paint contractors is $1.25 less. *x* Mineral surfaced. *y* 55-gallon container. *z* Drums. *aa* Approximate cost per 100 lbs. *bb* Roofers coating and cement. Price per ton. *cc* LCL truck delivery. *dd* 2% cash discount. *ee* Asphalt, in 100 lb. package. *ff* 5-gal. drums.

SKILLED AND COMMON WAGE RATES—PER HOUR

	Brick-layers	Car-penters	Struct. Iron Workers	Hoisting Engineers	Plas-terers	Electrical Workers	Steam-fitters	Common Labor Building	Common Labor Heavy Const.
Atlanta	$2.50	$1.775	$2.00	$2.00	$2.00	$2.00	$2.00	$0.85	$0.95
Baltimore	3.00	2.25	2.40	2.20-2.40	2.25	2.25	2.25	1.25	1.25
Birmingham	2.50	1.80	2.15	1.75	2.20	2.25	2.25	.95	1.05
Boston	2.625	2.10	2.40	2.45	2.50	2.30	2.45	1.65	1.65
Chicago	2.40	2.35	2.40	2.35	2.40	2.425	2.35	1.70	1.70
Cincinnati	2.50	2.20	2.35	2.50	2.375	2.375	2.35	1.46	1.46
Cleveland	2.375	2.325	2.375	2.25	2.375	2.375	2.375	1.725	1.725
Dallas	2.50	2.25	2.25	2.25	2.125	2.00	2.375	1.075	1.275
Denver	2.25	2.10	2.00	2.15	2.50	2.25	2.40	1.40	1.35
Detroit	2.50	2.20	2.40	2.40	2.50	2.40	2.40	1.575	1.575
Kansas City	2.60	2.15	2.30	2.375	2.75	2.30	2.395	1.575	1.40
Los Angeles	2.625	2.0375	2.30	1.9875	3.125	2.40	2.50	1.4875	1.4875
Minneapolis	2.25	2.05	2.175	2.00	2.35	2.21	2.25	1.45	1.45
New Orleans	2.50	1.875	2.25	2.125	2.00	2.30	2.25	1.025	1.025
New York	3.20‡	2.75‡	3.00	3.00	3.20‡	3.00‡	2.75‡	1.70	1.70
Philadelphia	2.75	2.25	2.65	2.50	2.50	2.375	2.50	1.25	1.25
Pittsburgh	3.00	2.50	2.50	2.65	2.625	2.375	2.50	1.50	1.50
St. Louis	2.75	2.45	2.425	2.55	2.50	2.50	2.50	1.50	1.65
San Francisco	2.8125	2.16	2.40	2.125	2.25	2.50	2.375	1.525	1.525
Seattle	2.495	2.195	2.395	2.33	2.495	2.395	2.50	1.795	1.83
Montreal*	1.40	1.25	1.30	1.20	1.40	1.35	1.11	.94	.88

a 6 hr. day. *b* 7 hr. day. * Cost of living bonus now included in basic wage.

MEXICO CITY PRICES

In Pesos, F.o.b. City		Mar. '49	Apr. '49
Common Wages—Building (8 hr. day)	av. per hr.	.57	.57
Common Wages—Heavy Const. (8 hr. day)	av. per hr.	.75	.75
Skilled Labor Wages			
Carpenters (8 hr. day)	av. per hr.	1.25	1.25
Bricklayers (8 hr. day)	av. per hr.	1.25	1.25
Struct. Iron Workers (8 hr. day)	av. per hr.	1.50	1.50
Struct. Steel Shapes 3"-15" x 12 meters	per ton	1,000.00	1,000.00
Reinf. Steel, Corr. Rods			
⅜" x 12 meters	per ton	1,200.00	1,200.00
½" x 12 meters	per ton	1,100.00	1,100.00
⅝" x 12 meters	per ton	1,100.00	1,100.00
¾" x 12 meters	per ton	1,100.00	1,100.00
⅞" x 12 meters	per ton	1,100.00	1,100.00
Gravel, truck load of 3½ cu. meters			
Blue Gravel	per tr. load	32.00	32.00
Rose Gravel	per tr. load	32.00	32.00
Cement, Std. Port. (Tolteca)	per ton	115.00	115.00
Lumber			
Mex. Sacred Fir (Oyamel)	per M ft.	375.00	375.00
1st Class Pine	per M ft.	750.00	750.00
2nd Class Pine	per M ft.	450.00	450.00

ENR Skilled Average: (Bricklayers, Carpenters, Ironworkers) $2.384. **ENR Common Average:** $1.431

New Places for
PREFORMED
WIRE ROPE
Men who build new machines and men who run old ones know that Preformed Wire Rope is an efficient, economical and dependable medium for transmitting motion.
BECAUSE—
• Preformed lasts longer
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GENUINE DOUGLAS FIR PLYWOOD PLYFORM CONCRETE FORM PANEL INTERIOR-TYPE GRADE B-B D.F.P.A. INSPECTED

. . . for Smooth, Fin-Free Concrete Surfaces

*The highly moisture-resistant (but not waterproof) glues used in PlyForm permit multiple re-use of panels (as many as 10 to 15 are not unusual). For the greatest possible panel re-use, however, specify Exterior-type Concrete Form grade of Douglas fir plywood—bonded with completely waterproof phenolic resin adhesive. For special architectural concrete, requiring the highest possible finish, the architect or contractor may specify Exterior-type or Interior-type Douglas fir plywood in grades having "A" (Sound) face veneer—or one of the new plastic-surfaced panels.

PLYFORM—the multiple re-use concrete form panel of Douglas fir plywood—is now manufactured in strict accordance with the new grade specifications set forth in U. S. Commercial Standard CS45-48. Both faces are of B (Solid) veneer—smooth and firm, meeting virtually all concrete requirements.*

Outstanding advantages offered by the NEW PlyForm include:

- PlyForm forms may be re-used again and again; they're more economical.
- PlyForm produces smooth surfaces, reducing finishing time and cost.
- PlyForm panels are strong, rigid—yet light and easy to handle.
- PlyForm's large panel size covers quickly, economically.
- PlyForm forms are puncture-proof, water and mortar tight.
- PlyForm offers superior nail-holding qualities.
- PlyForm is easy to work by hand or with power tools.
- PlyForm provides form sheathing and lining in one material.*

BOOKLETS FOR YOU!

Two booklets: "The New PlyForm" and "Concrete Forms of Douglas Fir Plywood" are now available. They will help you gain the full advantages offered by Douglas fir plywood concrete form panels. Write the Douglas Fir Plywood Association office nearest you: Tacoma Building, Tacoma 2, Washington; 1232 Shoreham Building, Washington 5, D. C.; 848 Daily News Building, Chicago 6; The 500 Fifth Avenue Building, New York City 18.

Douglas Fir PLYWOOD

LARGE, LIGHT, STRONG *Real Wood* **Panels**

CONSTRUCTION REPORTS

Bids Asked—Low Bidders—Contracts Awarded—First Section

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ELSIE EAVES, Manager *J. A. MAHONEY, Reports* *M. R. ROESSLER, Statistics*

WATER SUPPLY

BIDS ASKED

May 9

†Pa., Phila.—U. S. Dpt. of Army Ordnance, Frankford Arsenal, Phila., underground waterlines and fire plugs. Approx. $28,000.

May 10

B. C., Vancouver — Ronald Thompson, city clk., City Hall, 453 W. 12 Ave., 100,000 ft. 6-to 12-in. centrifugally cl. water pipe. Plans deposit $10. C. A. Battershill, **452 W. 12 Ave.,** city engr. CD 9/28/43—ENR 9/30/43.

LOW BIDDERS

Calif., Hawthorne—City, City Hall, Apr. 19, municipal water treatment plant addn., from MacMen, Inc., 3440 E. 22 St., Los Angeles, **$50,823.** Est. $50,000. CD 3/26—ENR 4/7.

N. J., Margate—City, cancelled bids to have been opened Apr. 28, reservoir. **$200,000.** Will re-advertise. CD 4/21.

Ore., Dallas—City, City Hall, Apr. 21, 3 m.g. rein.-con. reservoir from F. B. Miller & Co., Eugene, **$117,986.** CD 3/29—ENR 3/31.

Va., Portsmouth—City, W. Guy Ancell, mgr., Portsmouth, general contract WW impvts., from F. L. Showalter, Inc., Lynchburg, **$263,-200;** filter, from Roberts Filter Mfg. Co., Darby, Pa., **$195,830.** CD 3/14—ENR 3/17.

CONTRACTS AWARDED

Ark., Searcy—City, laying water supply line for water sys., to Forgeron Brothers, Ft. Smith, **$68,717;** water sys. improvs., extensions, to Tri-States Constr. Co., Hall Bldg., Little Rock, **$141,846.** Bids 4/1. CD 3/2—ENR 3/10.

Minn., Bigfork—Village, C. L. Allender, clk., City Hall, water supply and distr. sys., to C. Lyons, Grand Rapids, **$74,012.** Bids 4/14. CD 3/30—ENR 4/7.

Tex., LaPorte — Olds, Nelson & Gertsman, 6500 Harrisburg St., Houston, water distr. lines, facilities off LaPorte and Red Bluff Rds. Owner builds. **$70,000.**

Utah, Midvale—Town, L. A. Mineer, recdr., 1 m.g. rein.-con. tank, to Talbot & Wootten, Provo, **$40,773.** Bids 4/13. CD 4/4.

Wash., Seattle—City, County-City Bldg., Zone 4, watermains E. 85 and adjacent streets, to Argentieri & Colarossi, 1815 Jackson St., **$184,-861.** Est. $481,261. Bids 4/20. R. W. Finke, city engr.

Wis., Eau Claire—City, City Hall, water supply and sewer impvs., to Lametti & Lametti, 615 Drake St., St. Paul, Minn., **$149,832.** N. Bartholomew, city engr. CD 2/8/45—ENR 2/22/45.

SEWERS, WASTE DISPOSAL

BIDS ASKED

May 18

Pa., Norristown—Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, sanitary sewer extens. in connection with Bldgs. 1, 2 and 12, Norristown State Hospital. Plans deposit $2.50. Stewart A. Jellett Co., 1200 Locust St., Phila., engr.

SOON LETS CONTRACT

Pa., Darby—Gulf Oil Corp., 30 St. and Penrose Ave., Phila., soon lets contract sewer separator, concrete work and grading. Approx. $50,000. C. Roether, c/o owner, ch. engr.

LOW BIDDERS

Mo., Sedalia—City, c/o J. M. Bailey, clk., Sedalia, sewer addns., pump stations, incl. 40,800 ft. 8- to 12-in gravity flow sewer mains, 5,300 ft. 6-in. force mains, 4 sewage pump stations, from Schell Constr. Co., 310 Jefferson St., Jefferson City, **$319,159.** Burns & McDonnell Eng. Co., 95 St. and Troost Ave., Kansas City, Mo., engr. CD 12/1/47—ENR 12/11/47.

CONTRACTS AWARDED

Pa., Darby—Gulf Oil Corp., 30 St. and Penrose Ave., Phila., drains, sewerage sys. and fire and city waterlines, to Oxford Constr. Co., Commercial Trust Bldg., Phila., approx. **$100,000;** pump house and piping to Hughes-Foulkrod Co., 1505 Race St., Phila. Approx. **$50,000.** Bids 4/6. CD 3/30.

Tex., LaPorte—Olds, Nelson & Gertsman, 6500 Harrisburg Rd., Houston, sanitary sewers, off LaPorte & Red Bluff Rds. Owner builds. Approx. **$80,000.**

Wis., Madison—City, sanitary sewers in Second addn. to East Side Sewer Dist., to J. K. Walsh, 1004 E. Dayton St., **$79,667.** T. F. Harrington, city engr. CD 2/12/45—ENR 2/22/45.

BRIDGES

LOW BIDDERS

Oregon—State Hy. Comn., Salem, rejected bids Apr. 11, 2 rein.-con. bridges and 0.57 mi. highway roadbed on Coos Bay-Roseburg Hy., FAP F-151 (1) and F-29 (2), Coos Co., L. B. **$113,453.** CD 3/30.

Tenn., Knoxville—Knox Co., Knoxville, Apr. 19, Boyd's Bridge over Holston River, from Garrett & Farris, 3857 Kingston Pike, **$393,574.** CD 3/25—ENR 3/31.

CONTRACTS AWARDED

Oregon—State Hy. Comn., Salem, 2 bridges, roadway approaches on Pacific Hy. to Cottage Grove, Lane Co., to Hamilton & Thoma, Eugene, **$191,405.** Bids 4/12. CD 3/30.

Wash., Aberdeen—City, City Hall, 190 ft. steel awing bridge across Wishkah River, to Roy T. Earley Co., 321 Middle Waterway, Tacoma, **$304,727.** Bids 4/20. CD 4/13.

†Alaska—Pub. Roads Admin., Juneau, bridge on Sect. F-3 of Seward-Anchorage (Turnagain Arm) Proj., to J. J. Badraun, 109 N. 122 St., Seattle, Wash., **$489,738.** Bids 4/18. CD 3/29—ENR 3/31.

STREETS AND ROADS

BIDS ASKED

May 9

†Pa., Phila.—U. S. Dpt. of Army Ordnance, Frankford Arsenal, concrete roads repairs. Approx. $50,000.

May 17

Ia., Eldora—Bd. Supervs. Hardin Co., Eldora, street imprvs., incl. 64,000 cu. yd. grav., 1,000,000 units addnl. half mile haul, 8,000 cu. yd. stripping. Approx. $50,000. Robert Johnson, Eldora, co. engr.

May 19

†Iowa—U. S. Eng., 1217 U. S. Post Office and Custom House, St. Paul, 1, Minn., resurf. access road at Lock and Dam 10, Guttenberg, Serial No. Eng. 21-018-49-87. CD 4/15—ENR 4/28, under Earthwork, etc., Minnesota and Iowa.

†Minnesota—U. S. Eng., 1217 U. S. Post Office and Custom House, St. Paul, Zone 1, reconditioning access road at Lock and Dam 3, near Red Wing, incl. grading, grav. road bed, Serial No. Eng. 21-018-49-86. CD 4/15—ENR 4/28, Earthwork, etc., under Minnesota and Iowa.

June 7

Pa., Bridgeport — Bridgeport Boro, street repaving, various locations. Approx. $30,000. George B. Mebus, 112 S. Easton Rd., Glenside, engr.

LOW BIDDERS

Calif., Los Angeles—Bd. Educ., 1425 S. San Pedro St., Apr. 20, site work and street imprvs., Harbor Area Junior College, Wilmington, from Griffith Co., 1060 S. Broadway, **$96,000.** Est. $100,000.

Maryland—State Hy. Dpt., Baltimore, Apr. 19, b. conc. resurf., wid'n., Spec. B, 4.77 mi. State Rt. 171 near Baltimore city lines, State Rt. 169 at Linthicum, State Rt. **648,** at Glenburnie and State Rt. 301 Glenburnie, Contr. AA-410, 315, Anne Arundel Co., from McGuire & Rolfe, Inc., First and Ohio Sts., S. E., Wash., D. C., **$63,390***b.** conc. resurf., wid'n. Spec. B., 6 mi. State Rt. 16, Contr. D 219-115, Dorchester Co., from T. B. Gatch & Sons, Inc., Belair Rd., Baltimore, stone **$224,-218,** slag **$204,198***b.** conc. resurf. wid'n, Spec. B, 3 mi. State Rt. 16, and State Rt. 335, D. 218-115, Dorchester Co., from Eastern Highways Co., Belle Grove Rd., Brooklyn, Baltimore, **$54,087***b.** conc. resurf., wid'n, Spec. B, 0.85 mi. State Rt. 410, East-West Hy., 0.6 mi. State Rt. 384, 0.17 mi. State Rt. 653, all near Washington Dist. line, Montgomery Co., from Bituminous Constr. Co., 3301 Ridgewood Ave., Baltimore, **$123,267.** CD 4/6—ENR 4/14.

Md., Baltimore—Mayor & City Council, City Hall, Apr. 20, asph. repaving streets, Contr. **963** from Arundel Constr. Co., Inc., 4420 E. Eager St., **$113,608;** Constr. 961, from Potts & Callahan Paving Co., Inc., 2801 Falls Rd., **$126,040;** c. conc. paving street Contrs. 960 and 959, from Trinity Bldg. & Constr. Co., 4420 E. Eager St., **$55,074** and **$77,852** respectively. CD 4/13.

Pa., Phila.—Dpt. P. Wks., City Hall Annex, Apr. 20, street paving C9, from Mack Paving & Constr. Co., Luzerne and Hunting Park, **$56,717;** street paving Schedules B2, 3, 6, and 8, from Harry C. Erb, 1505 Race St., **$50,950.** CD 4/13.

Texas—State Hy. Comn., Austin, cancelled bids to have been opened Apr. 27, flexible base, seal coat 12.883 mi. Hys. F. M. 554 and 555, Contract No. 1018-1-1 and 1018-2-1; FP 4 (1) and S 911 (1); Upshur Co. CD 4/6—ENR 4/14.

Wash., Seattle—City, City Hall, Apr. 20, paving 47 Ave. S. and other streets, wid'n and asph. resurf. Lake Washington Blvd. S., concrete sidewalks Ferdinand St. and 43 Ave. S., watermain in Dawson St., stairways on Ferdinand St., from Northwest Constr. Co., **$340** 6 Ave. N. W., **$736,313.** Est. $766,607. R. W. Finke, city engr.

British Columbia — Province of British Columbia, Parliament Bldgs., Victoria, Apr., 12, bit. surf. roads, Kootenay Indiana Contg. Co. (Pacific) Ltd., 550 Burrard St., Vancouver, **$255,373*****bit. surf. roads, Lower Mainland, from Columbia Bitulithic Ltd., Granville Island, Vancouver, **$376,878*****bit. surf. roads, Vancouver Island, from General Constr. Co. Ltd., Granville Island, Vancouver, **$410,451*****bit. surf. roads, Yale, from Dawson, Wade & Co. Ltd., and Columbia Bitulithic Ltd., c/o 775 Clark Dr., Vancouver, **$70,168.** CD 4/1—ENR 4/7.

British Columbia—Province of British Columbia, Parliament Bldgs., Victoria, Apr. 13, bit. surf. roads, Grand Forks-Greenwood, Tomsland-Trail and Nelson-Creston, from E. R. Taylor Constr. Co. Ltd., 8699 Hudson St., Vancouver, **$312,792.** CD 4/1—ENR 4/7.

British Columbia—Province of British Columbia, Parliament Bldgs., Victoria, Apr. 14, bit. surf. roads, Central Interior, from Columbia Bithulic Ltd., and Dawson, Wade & Co. Ltd., c/o 775 Clark Dr., Vancouver, **$166,823;** bit. surf. roads, Fernie, from General Constr. Co. Ltd., Granville Island, Vancouver, **$79,295.** CD 4/1—ENR 4/7.

CONTRACTS AWARDED

Mass., Fall River—City, Wm. P. Grant, mayor, City Hall, patching, repairing various streets, to Sherry Corp., 23 Grand St., Est. **$150,000.** Bids 3/29, CD 3/25; granolithic sidewalks, driveways, resetting curbs, patching, repairing sections sidewalks, to Fleming & Lyons, 84 Beverly St. Approx. **$75,000.**

Mich., Detroit—Dpt. P. Wks., City Hall, imprv. streets, Group 49-10, Constrs. P. W. 805, 806, 807 and 808, to A. J. Smith Contg. Co., 4847 Schaefer St., **$70,750;** Constrs. P. W. 809, 814 and 815, to Julius Porath & Son Co., 702 Transportation Bldg., **$50,844.** Bids 4/12, awarded 4/19. CD 4/6.

Oregon—State Hy. Comn., Salem, oiling 6.9 mi., surfacing 3.5 mi. Powell Butte-Prineville sect. of Ochoco Hy. Crook Co., to D. F. McKenzie, Salem, **$62,065*****surfacing 13.09 mi., oiling 25.96 mi. 3 state highways, Polk and Yamhill Counties, to D. F. Paving Co., Vancouver, Wash., **$176,002***surf.,** oiling **0.2** mi. Umatilla sect. Columbia River Hy., Umatilla Co., to Newport Constr. Co., 7031 N. E. Halsey St., Portland, **$57,474.** Grand total $295,481. Bids 4/12.

Oregon—State Hy. Comn., Salem, surf., oiling 0.5 mi., furnishing 12,000 cu. yd. crushed rock in stockpiles on Collins Creek and Parkdale Sects. of Hood River and Mt. Hood Highways, Hood River Co., to A. H. Saxton & Sons, Corvallis, **$66,771***18,000** cu. yd. crushed rock on 3 state highways, Hood River and Wasco Counties, to Arthur Gentemann, 5924 S. W. 30 St., Portland, **$53,820*****oiling on rock shoulders 33.66 mi. three state highways, Umatilla Co., to Newport Constr. Co. & Russell Olson, 7031 N. E. Halsey St., Portland, **$182,619 *****surfacing, oiling 8.12 mi., furnish 12,000

PROJECTS COVERED

Projects—By Size

Construction projects here reported **cover** the United States and Canada, are of **three** minimum **sizes** or larger: water **supply,** earthwork, waterways $28,000; other public **works** $50,000; industrial buildings **$68,-000;** other buildings **$250,000.**

Classes of Construction

(Name in order of Listing)

Water Supply	Latin America
Sewers, Waste Disposal	Public Buildings
Bridges	Commercial Buildings
Streets & Roads	Industrial Buildings
Earthwork, Waterways	

Unclassified

Stages Reported

PROPOSED WORK: Including appointment of engineers or architects.

BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR.;

LOW BIDDERS: On jobs below **$500,000 value all** low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Symbols and Abbreviations Include:

†	Federal Government
●	Project of $1,000,000 or over.
ENR	Engineering News-Record
CD	Engineering News-Record Construction Daily

cu. yd. crushed rock on Henley-Lost River and Maline sects. of Klamath Falls-Malin Hy., FAP S-31 (4), Klamath Co., to J. N. & M. J. Conley, 4332 N. E. Royal Court, Portland, **$233,433*****24,000 cu yd. crushed rock on Suislaw and Alsea-Deadwood Hys., Lane Co., to Homer G. Johnson, 3166 N. Greeley St., Portland, **$88,350*****surf. 4.8-9 mi., oiling 9.91 mi. Corvallis-Albany Sect. of Corvallis-Eastside Secondary Highway, Linn Co., to Warren Northwest, Inc., 9840 N. E. Hancock St., Portland, Zone 13, **$62,026**. Grand total $687,019. Bids 4/11. CD 3/30.

Ore., Beaverton—Cedar Hills, 555 Cedar Hills Blvd., construct streets in Cedar Hills development, to Oregon Asphaltic Paving Co., 6500 N. E. Ainsworth St., Portland, **$65,157.** Awarded 4/21. Thomas Smithson, 550 Cedar Hills Blvd., engr.

Pa., Phila.—Dpt. P. Wks., City Hall Annex, street paving, Schedules B1, 4, 5 and 9, to Mack Paving & Constr. Co., Luzerne and C Sts., **$61,334.** Dudley T. Corning, highways engr.

Tex., LaPorte—Olds, Nelson & Gertsman, 6500 Harrisburg Rd., Houston, 20 ft. c. conc. paving off LaPorte and Red Bluff Rds. Owner builds. **$90,000.** CD 4/26—ENR 5/26.

N. S., Halifax—Municipality, street paving, to Standard Paving Co., Ltd., 101 Upper Water St., **$352,304**; permanent sidewalks, curbs and gutters, to Walker & Hall, Ferry Bldg., **$270,000.** R. M. MacKinnon, city engr. Bids 4/11. CD 4/7.

EARTHWORK, WATERWAYS

BIDS ASKED

May 10

†Virginia and South Carolina—U. S. Eng., Customhouse, Charleston, S. C., Atlantic Intracoastal Waterway between Norfolk, Va., and St. Johns River, Fla., Charleston Dist. (sheets between Charleston and Beaufort, S. C.), Serial No. Eng-38-081-49-24.

On or About May 16

†Arkansas—U. S. Eng., 300 Broadway, Little Rock, approx. 360,000 cu. yd. levee embankment and drainage of left bank Petit Jean River and right bank of Arkansas River in Carden's Bottom Drainage Dist. 2, Dardanelle, Yell Co., Serial No. Eng-03-050-49-61.

May 25

†N. Y., Cornwall—U. S. Eng., 120 Wall St., New York, Zone 5, stream clearance at Dock Hill Brook.

June 8

†Tennessee—U. S. Eng., P. O. Box 97, Memphis, Zone 1, Workhouse Bayou Pumping Station, Memphis, approx. 100 ft. west of Brookins St. extended, and approx. 200 ft. north of Shannan Ave. extended, Serial No. Eng-40-041-49-123.

LOW BIDDERS

†Arkansas—U. S. Eng., 300 Broadway, Little Rock, Apr. 19, earthwork, Red River Levee, Lafayette Co., Serial No. Eng. 16-047-49-29, from A. T. Riley Constr. Co., Cape Girardeau, Mo., **$40,135.** CD 4/6, under Louisiana.

†Wyoming-Nebraska — Bureau Reclamation, Dpt. Interior, 504 Con-Roy Bldg., Casper, Mar. 31, abutment and foundation grouting of Pathfinder Dam, North Platte Proj. on North Platte River about 47 mi. southwest of Casper, Wyo., Spec. 2599, from Continental Drilling Co., 222 W. 6 St., Los Angeles, Calif., **$29,392.** CD 3/8—ENR 3/10.

CONTRACTS AWARDED

Minn., Glencoe—McLeod Co., J. J. Leasman, and., County Ditch 64, to T. Hellander, 1191 N. 5 St., Fargo, N. D., **$10,114.** Bids 3/31. CD 3/16—ENR 3/24.

AIRPORTS AND AIRBASES

BIDS ASKED

May 11

†Va., Burlington—PARACHUTE FACILITIES—U. S. Eng., Army Base, Boston, 10, Mass., construct parachute facilities, Hangar 1, Burlington Municipal Airport, South Burlington, Serial No. Eng-19-016-49-85. CD 1/22/45—ENR 4/5/45.

May 19

Ark., Fayetteville—LIGHTING SYSTEM—City, lighting sys. for municipal airport. Plans deposit $10. W. C. Smith, 414 Gunter St., engr. CD 1/14/47—ENR 3/6/47.

†Ga., Marietta—SHOP—U. S. Eng., Post Office Bldg., Savannah, motor service shop at Marietta Air Force Base, Serial No. Eng-09-133-49-167. Extended date. CD 4/6—ENR 4/28.

May 20

†Wash., Walla Walla—APARTMENTS—U. S. Eng., 19 E. Poplar St., converting 6 bachelor officer quarters bldgs. at Walla Walla Air Base, into apartments, Serial No. Eng-45-164-49-64. Extended date. CD 4/12—ENR 4/14.

LOW BIDDERS

†Pa., Phila.—CATAPULT FOUNDATION—Pub. Wks. Office, Phila. Naval Base, catapult foundation, Phila. Naval Base, Mustin Field, Spec. 29664, from MacArthur Concrete Pile Corp., 18 E. 48 St., New York, N. Y., **$83,879.** CD 4/13.

PUBLIC BUILDINGS

BIDS ASKED

May 10

†Del., Dagsboro—U. S. Property & Disbursement Officer, Bldg. 57, New Castle Air Base, New Castle, vehicle warehouse and office, $50,000. W. Ellis Preston, 903 Jefferson St., Wilmington, archt.

Ind., Fort Wayne—Bd. P. Wks., City Hall, Contr. 7, platforms for deaerating and top heaters; Contr. 8, steam exhaust and water piping sys., boiler plant auxiliaries in generating station, City Light & Power Wks. Plans deposit $10. Emery, Marker & Emery, 510 Toledo Trust Bldg., Toledo, O., engrs. CD 1/21/48—ENR 2/5/48.

N. C., Charlotte—Bd. School Comrs., J. M. Dunlap, bus. mgr., City Hall, vocational bldg. for Second Ward School. Plans deposit $50. A. G. Odell Jr. & Assoc., 213 Latta Arcade, archts. CD 5/1/46—ENR 7/11/46.

†Vermont—U. S. Property & Disbursing Officer for Vermont, Bldg. 94, Fort Ethan Allen, motor vehicle storage bldgs. at St. Albans and Ludlow, Serial No. 43-007-13-49.

May 11

●Mass., Fall River—City of Fall River Housing Auth., Fall River, 195 unit Maple Gardens Veterans Housing, South End, $1,900,000. Plans deposit $50. Samuel T. Dubitsky, 41 N. Main St., archt. CD 5/12/48—ENR 5/27/48.

May 12

†Ga., Augusta—U. S. Eng., Post Office Bldg., Savannah, Laboratory 202 alterations, addns., Oliver General Hospital, Serial No. Eng. 09-133-49-171. Bid date changed. CD 4/6—ENR 4/21.

May 13

Mass., Waltham—Waltham Housing Auth., City Hall, housing. Plans deposit $100. CD 1/19—ENR 2/3.

About May 15

Mo., Jennings (St. Louis, Zone 21, P. O.)—Jennings School Dist. Bd. Educ., Orla A. See, supt. Schools, 8810 Cozens Ave., Jennings, St. Louis, Zone 21, 1 story, basmt., brick, concrete Woodland School alterations, addns., Kinamore and Sunbury Sts. P. John Hoener, 3415 S. Kingshighway Blvd., St. Louis, Zone 9, archt. CD 6/6/46—ENR 7/11/46.

May 17

Ia., Akron—City, City Hall, power plant enlargement, generating equip., switchboard, etc., $75,000. Buell & Winter, 508 Insurance Exchange Bldg., Sioux City, engrs.

Mo., Boonville—State Bd. Training Schools, W. E. Sears, dir., State Office Bldg., Jefferson City, and Missouri Training School for Boys, Boonville, brick, concrete, steel edu. and bldg., Missouri Training School for Boys. Approx. $300,000. Marshall & Brown, 111 W. 10 St., Kansas City, Mo., archts. CD 4/26.

N. Y., Brooklyn—New York City Housing Auth., 63 Park Row, New York, Zone 7, general contract, heating and ventilating, electrical work and plumbing for Boulevard Houses (Proj. No. NYC-164) in area bounded by Linden Blvd., Ashford St., Wortman Ave., Hendrix St., Stanley and Schenck Aves. Plans deposit $25.

May 18

Mass., Fitchburg—Fitchburg Housing Auth., City Hall, housing. Plans deposit $50. CD 8/27/48—ENR 9/16/48.

†Ohio—U. S. Eng., Madison Ave. and 8 St. W., Huntington, 18, W. Va., operators quarters, appurtenances, Delaware Reservoir Proj., Olentangy River, Serial No. 46-022-49-139. CD 4/7—ENR 4/21.

May 19

†N. Y., Albany—U. S. Eng., 120 Wall St., New York, Zone 5, residence bldg. at Veterans Administration Hospital, for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash., D. C.

May 20

N. D., Bottineau—State Bd. Higher Educ., Bismarck, boiler house and steam distr. at State School of Forestry, $350,000. G. H. Burenhagen, Minot, archt. CD 5/5/48—ENR 5/13/48, under LB.

LOW BIDDERS

Calif., Calexico—Calexico Elementary School Dist., Apr. 12, Rockwood School classroom and administration bldg., from J. & W. Constr. Co., 3572 Valley Blvd., Los Angeles, **$349,400,** CD 3/17—ENR 3/17.

Ia., Traer—Bd. Municipal Light & Power Plant, Traer, Mar. 29, Sect. 7, plant, Sect. 8, equip., Sect. 9, switchboard, electric equip., from Jens Olyson, 321 W. 18 St., Waterloo, **$128,796.** CD 3/14—ENR 3/17.

Ore., Eugene—City, City Hall, Apr. 21, fotebay for Walterville hydroelectric station, from Guy F. Atkinson, Cascade Bldg., Portland, **$785,550**; headworks, from Henshaw Bros., 4006 N. E. Davis St., Portland, **$71,820.** CD 3/24—ENR 3/31.

Ore., Portland—Multnomah Co., Courthouse, Apr. 21, 75-bed rein.-con. hospital addn., from Oscar Wayman, 5125 N. W. Front St., **$193,-210.** CD 4/13.

Ore., Reedsport—Union High School Dist. 13, Reedsport, Apr. 14, L shaped, 246x248 ft. masonry high school and gymnasium, from Tom Lillebo, Reedsport, **$333,375.** CD 3/29—ENR 3/31.

†Washington—U. S. Eng., 19 E. Poplar St., Walla Walla, Apr. 21, design, mfg., del. three 104,000 hp. hydraulic turbines for Ice Harbor Dam power plant on Snake River, Spec. Eng-45-164-49-40, from Allis-Chalmers Mfg. Co., 1126 S. 70 St., Milwaukee, Wis., **$3,542,010.** CD 4/1—ENR 4/7.

Wis., Middleton—Bd. Educ., Middleton, Apr. 12, general contract high school addn., alterations, from Johnson Constr. Co., 677 Main St., Winona, Minn., **$320,138.** CD 9/10—ENR 9/30.

Ont., London—Dpt. P. Wks., Hunter Bldg., Ottawa, Apr. 13, 2 story, basmt., L-shaped, 108x122 ft. research laboratory, University of Western Ontario campus, from Dinsmore-McIntire, Ltd., 1204 Canada Bldg., Windsor. Approx. **$911,869.** G. Brault, c/o owner, and Riddle & Connor, 422 Wellington St., archts.

CONTRACTS AWARDED

Ore., Roseburg—School Dist. 4, Roseburg, 8 classroom addns. to Fullerton School; 13 classroom addns. to Riverside School, to H. J. Settergren, 5647 N. E. 26 St., Portland, **$253,330.** Bids 4/4, awarded 4/19. CD 3/24.

Tex., Alamo Heights (San Antonio P. O.)—Alamo Heights Independent School Dist., c/o A. Dibsworth, pres., 8941 Broadway, San Antonio, high school, to G. W. Mitchell, 612 American Hospital & Life Bldg., San Antonio, **$776,000.** Bids 4/12. CD 4/19—ENR 4/21, under LB.

COMMERCIAL BUILDINGS

BIDS ASKED

After May 1

N. J., Millville—Walter Custer, archt., Gils Rd., Bridgeton, bldg. for Millville Young Mens Christian Assn., 34 Cedar Ave. **$250,000.** CD 2/25—ENR 3/10.

Va., Norfolk—Jleeson & Muirooney, archts., Fox Bldg., Phila., Pa., Catholic Central High School for Sacred Heart High School, Roman Catholic Diocese of Richmond, Diocese Offices, Richmond, $600,000. T. David Fitz-Gibbson, Royster Bldg., Norfolk, assoc. archt. CD 12/29—ENR 1/20.

May 12

Pa., Lehighton—Gnaden Huetten Memorial Hospital, Inc., Lehighton, 50 bed memorial hospital. $643,787. Extended date. H. F. Everett & Assoc., 512 Hamilton St., Allentown, archt. CD 4/11—ENR 4/21.

May 22

●Pa., Danville—Geisinger Memorial Hospital, Danville, brick hospital addn. $1,000,000. Thomas Ellerslie, Natl. Bank Bldg., St. Paul, Minn., archt. CD 4/26.

SOON LETS CONTRACT

Fla., Tampa—St. Josepha Hospital, Inc., c/o Mother Loretta Mary, 7 Ave. and Morgan St., soon lets contract, 4 story, basmt., 73 bed hospital addn. $350,000. William B. Harvard, Alhambra Arcade, St. Petersburg, archt. CD 3/31—ENR 3/17.

Ia., Dyersville—Xavier Catholic Congregation, Dyersville, soon lets contract high and grade school $300,000. John J. & Thomas H. Flas, 133 Langdon St., Madison, Wis., archts. CD 10/20—ENR 10/28.

Minn., Anoka—St. Stephens Catholic Parish, Anoka, soon lets contract 2 story, basmt., L-shaped, 165x179 ft. school, $300,000. J. V. Vandebilt, 617 National Bldg., Minneapolis, archt.

Pa., Allentown—Cedar Crest College, Allentown, soon lets contract concrete block, stone, brick arts bldg. $350,000. H. F. Everett & Assoc., Allentown, archts. CD 4/20—ENR 4/28.

Pa., Carbondale—The First Presbyterian Church, 66 Church St., soon lets contract church and Sunday school. $250,000. Charles L. Bolton, 1505 Race St., Phila., archt. CD 4/22/48—ENR 5/13/48.

S. C., Lancaster—First Methodist Church, c/o Heyward S. Singley, archt., 1508 Washington St., Columbia, soon lets contract church. $250,000. Plans deposit $25.

LOW BIDDERS

Pa., Sharon—Community Hotel, Sharon, Apr. 1, 6-room community hotel, from Paul Gleim, Sharon, **$312,750.** CD 3/22—ENR 3/31.

CONTRACTS AWARDED

●Ill., Chicago—3622 Sheridan Road Corp., c/o De Golyer & Schmidt, archts., 30 N. Dearborn St., 12 story, steel, brick, stone apartment, to A. L. Jackson Co., 161 E. Erie St., approx. **$3,500,000.**

Miss., Laurel—David Moffet, Laurel, 32 houses, to Harvey Reeves, Laurel. Approx. **$250,000.**

N. Y., Springfield—Merit Homes, Inc., c/o J. H. Burmeister, archt., 92-21 165 St., Jamaica, 28 one family houses, 121 Ave., 229 and 230 Sts. Owner builds. **$280,000.**

Pa., Lancaster—Lawrence A. Benedict, 39 N. Duke St., 50, brick, concrete block, frame residential housing units, separate contracts. **$400,000.**

Pa., Phila.—Mariani & Himelfarb, 5424 Euclid Ave., residential development Brighton St., separate contracts. **$286,000.**

Pa., Phila.—Park Manor Apartments, c/o Benjamin Shulman, archt., 2109 Chestnut St., apartment addns., alterations, separate contracts. Approx **$250,000.**

Tex., Beaumont—Oaklane Corp., 122 Bowie St., 40 three-room apartment units, adjacent 16 St., own forces. Approx. **$300,000.** CD 4/14.

●**Tex., Bellaire-Strickland**—Whipple Constr. Co., 2nd Natl. Bank Bldg., Houston, addnl. shopping center, Old Richmond Rd. between Avenue D and 9 St. Owner builds. **$1,100,000.** CD 4/26.

Tex., Houston—Best Home Builders, Inc., c/o J. E. Leicher & Assoc., 3255 Rosedale St., 150 dwellings, off Old Spanish Trail and Holmes Rds., own forces. **$675,000.** CD 2/11—ENR 3/3.

Tex., San Antonio—Alamo Lumber Co., 2110 S. Flores St., 65 addnl. dwellings, Jefferson Terrace, Military Dr. and S. Flores St. Owner builds. **$375,000.** CD 4/14.

●**Va., Fredericksburg**—Mary Washington Hospital Assn., Fredericksburg, 100-bed general hospital, to Virginia Eng. Co., Newport News. **$1,310,100.** Bids 4/13. CD 7/26—ENR 7/5.

Va., Richmond—First Presbyterian Church, 53 E. Lock Lane, church addn., to David & Spiers, Inc., 3101 Moore St., **$250,000.** Courtenay S. Welton, 105 E. Cary St., archt. CD 4/26/48—ENR 5/13/48.

Que., Ste. Anne de la Pocatiere—Parish of Ste. Anne de la Pocatiere, Rev. A. Hudson, P. P., 75x225 ft. church and parish, to Laurent Giroux, 671 Chemin Ste. Fay, Quebec City. Approx. **$250,000.** H. S. Labelle, 3 Kelvin St., Outremont, archt. CD 4/7/48—ENR 4/29/48.

INDUSTRIAL BUILDINGS

BIDS ASKED

May 11

Ga., Lyons—WAREHOUSE, etc.—Atamaha Electric Membership Corp., Lyons, warehouse and office. Plans deposit $25. Southern Eng. Co., 699 Spring St., N. W., Atlanta, engr.

Bids Asked

Tex., Bay City and El Campo—BOTTLING PLANTS, WAREHOUSES—Coca Cola Bottling Co., c/o Stone & Pitts, archts., 951 M. & M. Bldg., Houston, bottling plants and warehouses. $100,000.

●**Que., Arvida** — LABORATORY — Aluminum Co. of Canada Ltd., Sun Life Bldg., Montreal, 2 story, 50x200 ft. rein.-con. research laboratory, with 2 story 60x200 ft. pilot plant wing, and 1 story, 50x110 ft. (auditorium), exten. Approx. $1,000,000. CD 6/10/48—ENR 7/8/48.

SOON LETS CONTRACT

Calif., Los Angeles—STOCKROOM—Keuffel & Esser Co., 1327 S. Olive St., soon lets contract 2 story reinforced-brick stockroom and modernizing 4 story bldg. $75,000. A. C. Martin & Assoc., 333 S. Beaudry St., archts.

Conn., Waterbury — TRUCK GARAGE — Borck & Stevens, 925 Housatonic Ave., Bridgeport, soon lets contract 1 story, brick, steel truck garage, Meriden Rd. $70,000. Fletcher Thompson, Inc., 211 State St., Bridgeport, archt. CD 4/12—ENR 4/14.

La., Lake Charles—PLANT—Citizens Publishing Co., c/o Dunn and Quinn, archts., Lake Charles, soon lets contract printing plant. CD 4/26—ENR 4/19.

Minn., Sleepy Eye—WAREHOUSE, etc.—Brown Co. Rural Electric Assn., H. A. Rossuth, mgr., soon lets contract warehouse and office. $100,000. Dreher & Ross, Mankato, archts. CD 4/21—ENR 4/28.

Miss., Laurel — WAREHOUSE, etc. — Jones County Electric Power Assn., Laurel, soon lets contract warehouse, office, $95,000. Plans deposit $10. Extended date. Biggs, Web & Chandler, 224 N. Congress St., Jackson, archt. CD 2/4—ENR 2/17.

N. J., Bridgeton — WAREHOUSE — Owens-Illinois Glass Co., Bridgeton, soon lets contract three 1 story brick warehouses. Approx. $100,000. CD 10/30/46—ENR 11/7/46.

Pa., Lansdale—MANUF. CTURING—Andale Co., Hancock St. and Railroad, Lansdale, soon lets contract mfg. bldg. addn. Approx. $68,000.

S. C., Sumter—PLANT—Manufacturing Enterprises, Inc., B. L. Montague, pres., 306 E. Liberty St., soon lets contract mfg. plant. Plans deposit $25. James & Durant, Sumter, archts. CD 1/7—ENR 2/3.

Ont., London—FACTORY—Prack & Prack, archts., 310 Main St. E., Hamilton, soon lets contract 1 story, part basmnt., 200x410 ft. factory, Highway and Bridges Sts., for Eaton, Wilcox & Rich Ltd., 379 Fleet St. W., Windsor. Approx. $425,000. CD 4/6—ENR 4/21.

LOW BIDDERS

N. C., Winston-Salem—WAREHOUSE—Atlas Supply Co., E. L. Davis, Jr., pres., 236 S. Liberty St., Apr. 12, warehouse addn., from West Building Co., Pepper Bldg., $77,778. CD 4/12—ENR 4/14.

Pa., East Stroudsburg—MANUFACTURING—Monroe County Industrial Comn., Stroudsburg, brick mfg. bldg. for True-Matic Tool Mfg. Co., lessee, 311 S. 6 St., Mt. Vernon, N. J., from Paul L. Eddinger, Stroudsburg, $75,000. Rinker & Kieffer, Stroudsburg, archts.

●**S. C., Kollocks**—PLANT—J. P. Stevens Co., Inc., c/o low bidders, Apr. 5, finishing plant, from Daniel Constr. Co., Greenville. **$1,800,000.** CD 3/23—ENR 3/31.

Tex., Cleburne—SALES, SERVICE, SHOP—Steakley Bros. Chevrolet Co., Cleburne, Apr. 12, auto sales, service, shop, from T. C. Styron.

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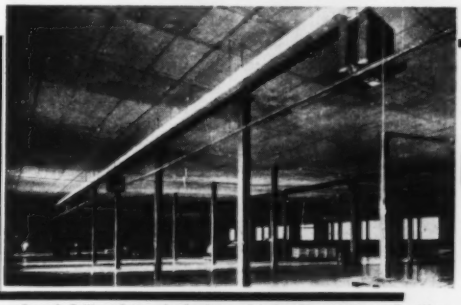

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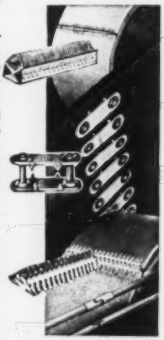

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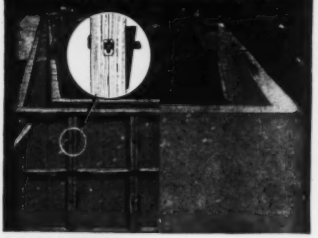

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2819 Avenue K, Fort Worth, **$70,000.** Lucius E. O'Bannon, 2610 Fairmont St., Dallas, archt.

Tex., Houston—WAREHOUSE, etc.—Quaker Rubber Corp., 2315 Polk Ave., 1 and 2 story, 45,000 sq. ft. steel frame, brick, hollow tile walls, masonry warehouse and office, concrete slab fdn., from Marshall Constr. Co., 4009 Center St. **$238,800.** CD 4/11—ENR 4/21.

Tex., Paris—HEADQUARTERS, etc.—Lamar County Electric Co-operative Assn., Paris, Apr. 19, brick, hollow tile headquarters, demonstration, garage and storage, concrete frame and slab fdn., from Burford Constr. Co., 3220 Ash Lane, Dallas. **$74,397.** Est. $100,000. CD 4/5—ENR 4/14.

CONTRACTS AWARDED

Ala., Birmingham — WAREHOUSE, etc. — Alabama Appliance Co., Inc., c/o contractor, warehouse and office, to T. C. Brasfield, 3021 6 Ave. S. Approx. **$100,000.**

Ala., Montgomery—STOCKYARD FACILITIES, etc.—Union Stockyards c/o contractor, stockyard facilities and plant, to Butler & Cobb, Bell Bldg., Approx. **$250,000.** CD 3/28—ENR 3/31.

●**Calif., East Los Angeles (br. Los Angeles)**—WAREHOUSE, etc.—Union Hardware & Metals Co., 411 E. 1 St., Los Angeles, 3 story, steel storage warehouse and office, to Baruch Corp., 5655 Wilshire Blvd., Los Angeles. **$1,579,000.** Bids 2/22, awarded 4/21. CD 2/21—ENR 3/2.

Calif., East Los Angeles (br. Los Angeles)—FACTORY—Clorox Chemical Co., 850 42 Ave., Oakland, 1 story, 120x263 ft., concrete factory, to Wm. P. Neil Co., 4814 Loma Vista Ave., Los Angeles **$130,000.** Reliance Eng. Co., 2922 Sunol Dr., Los Angeles, engr.

Conn., New Haven — WAREHOUSE — H. Krevit & Co., 11 Albert St., 2 story, 90x90 brick, concrete warehouse, Welton St., to Harlacco, Inc., 201 Front St. Approx. **$68,000.** Charles Abramowitz, 52 Goffee Terrace, archt.

Conn., Torrington — SHOWROOM, etc. — Landi Motors, Inc., 723 Prospect St., 1 story, 50x200 ft., brick, cinder blocks, concrete auto showroom and service garage, Midgeon Ave. (owner builds. **$68,000.** Ray L. Brown, Jr., 60 Main St., Torrington, archt. CD 2/22—ENR 3/3.

Conn., Westport—SHOWROOMS and SERVICE GARAGE—J. W. Vaast & Son, Inc., E. State St., 1 story, 100x115 ft., brick, concrete block showrooms and service garage, Crescent Rd. and E. Main St., section of Post Rd., to William Guyaz, 499 Compo Rd. Approx. **$80,000.**

Fla., Tampa—WAREHOUSE—Gaylord Container Corp., Howard and Inman Sts., warehouse addn., to L. O. Stocker, Tampa. Approx. **$75,000.**

Ga., Americus—WAREHOUSE, etc.—Sumter Electric Membership Corp., Americus, warehouse and office, to A. C. Samford, Inc., Albany. Approx. **$75,000.** Bids 4/11. CD 3/9 ENR 3/17.

Ga., Sylvester—WAREHOUSES—Worth Tobacco Warehouse Co., Inc., Sylvester, 2 warehouses, to W. J. Pippin Constr. Co., Sylvester. **$85,000.**

Ga., West Point—SALES and SERVICE—W. O. Terrell, West Point, auto sales and service, to Home Builders Co., West Point. Approx. **$75,000.**

Ill., Chicago — ENGINE BARN — Chicago, Milwaukee, St. Paul & Pacific R. R. Co., R. J. Middleton, ch. engr., Union Station, Zone 6, diesel engine barn to Ragner Benson Inc., 4744 W. Rice St., **$150,000.** Awarded 4/18. CD 4/14—ENR 4/21.

●**Ill., McCook**—PLANT—Armour & Co., Union Stock Yards, Chicago, design and construction plant, to E. B. Badger & Son, 75 Pitts St., Boston, Mass. **$3,500,000.** CD 6/31/47—ENR 7/24/47.

Ind., Fort Wayne — WAREHOUSE — R. F. McDonough, Parkersburg, Va., 1 story, brick warehouse, Brooklyn and Carlton Aves. Owner builds. American Radiator & Standard Sanitary Co., lessee.

Ia., Wall Lake — GRAIN ELEVATOR — Quirk Grain Co., Wall Lake, grain elevator, to George Todd Constr. Co., Ames, **$100,000.**

Ky., Louisville — SALES and SERVICE — C. F. Smith Motor Co., 2526 Hale St., auto sales and service bldg. (owner builds, **$75,000.**

Mass., Dartmouth—PLANT—Carbide & Carbon Chemical Corp., 205 E. 42 St., New York, N. Y., 1 story, 550x175 ft., brick, concrete plant, Faunce St., to Coleman Constr. Co., 49 Westminster St., Providence, R. I. Approx. **$68,000.**

Mass., West Springfield—SERVICE STATION, etc.—Sears Roebuck & Co., Roosevelt Bldg., Adams Ave., Phila., Pa., service station, parking lot, to Ley Constr. Co., 1215 Main St., Springfield. Approx. **$70,000.** The Ballinger Co., 121 N. Broad St., Phila., Pa., archt.

Minn., Minneapolis—SALES and SERVICE—Warren-Cadillac, Inc., 5 W. 14 St., general contract superstructure 1 story, 125x175 ft. auto sales and service garage, 709 Wayzata Blvd., to H. N. Leighton Co., 716 S. 7 St. **$220,942.** Bids 4/5. Bids 1/11 rejected. CD 1/3—ENR 1/6.

Minn., Rochester—PLANT—Marigold Dairies, Inc., R. Graupmann, mgr., Rochester, general contract 2 story, bsmnt., 79x114 ft. plant, to Standard Constr. Co., 607 Hamm Bldg., St. Paul. **$170,000.** Bids 4/12. CD 4/5—ENR 4/14.

Mo., St. Louis—FACTORY—Foster Bros. Mfg. Co., 3230 N. Broadway, Zone 7, 1 story, 156x181 ft., brick, concrete, steel factory, 2101 S. Vandeventer Ave., to Jones-Kissner Constr. Co., 722 Chestnut St., Zone 1, Preston J. Bradshaw & Assoc., 1800 Olive St., Zone 3, archts.

Mo., St. Louis—GARAGE and SERVICE—Kuhs Buick Co., 2900 N. Grand Blvd., Zone 7, 1 story, 60x160 ft. concrete, garage and service bldg., concrete fdn., 4832 Natural Bridge Ave., separate contracts. J. E. Tarling, 2807 N. Grand Blvd., Zone 7, archt.

Mont., Great Falls—GRAIN ELEVATOR—Farmers Union Grain Terminal Assn., Snelling Ave. N. and Larpenteur Ave. W., St. Paul, Minn., grain elevator, to Henry George & Sons Co., Hutton Bldg., Spokane, Wash., **$200,000.**

O., Toledo—WAREHOUSE—Henry C. Beck Co., 1225 Indiana Ave., warehouse. Owner builds. **$125,000.**

O., Toledo — TERMINAL — Hayes Freight Lines, Inc., 102 S. Erie St., motor truck terminal and office on L-shaped tract at Creedale and Sylvania Ave., containing dockage for 26 trucks, to La Salle Constr. Co., 343 S. Dearborn St., Chicago, Ill., Approx. **$200,000.**

Tex., Dallas—PLANT—Williams & Wagner, 2124 Main St., mfg. plant, to Williams & Wagner Constr. Co., 2124 Main St., **$110,000.** CD 4/26.

● **Que., Quebec City**—PLANTS—Quebec Railway Light & Power Co. Ltd., 600 Dorchester St. W., water gas and coal gas plant repairs, day labor. **$200,000.**

Que., Richmond Gulf—MINE DEVELOPMENT—Gulf Lead Mines Ltd., C. E. Rodgers, 330 Bay St., Toronto, Ont., lead mine development, east coast Hudson Bay, day labor. **$120,000.**

Que., Three Rivers—SUB STATION—Shawinigan Water & Power Co., 600 Dorchester St. W., Montreal, power sub-station, St. Philippe Ward, to Shawinigan Engr. Co. Ltd., 600 Dorchester St. W., Montreal, Approx. **$100,000.** J. A. McCrory, c/o owner, engr. CD 11/12.

UNCLASSIFIED

BIDS ASKED

May 11

Ky., Shelbyville—SWIMMING POOL—City, City Hall, municipal swimming pool. Plans deposit $25. J. Stephen Watkins, 145 E. High St., Lexington, consult. engr. CD 8/6—ENR 8/12, under LB.

†**Tenn., Nashville**—CEMETERY—U. S. Eng., P. O. Box 1169, Mobile 7, Ala., constructing improvs. at Nashville National Cemetery, Serial No. Eng-01-076-49-55. CD 4/13—ENR 4/21.

SOON LETS CONTRACT

Montana—RURAL DISTRIBUTION LINES—Lower Yellowstone Rural Electric Assn., Sidney, soon lets contract labor only, 392.74 mi. rural distr. lines, Richland, Dawson and Roosevelt Counties. $125,000. Tiovo Karkainen, Helena, engr. CD 9/14—ENR 9/30.

North Dakota — RURAL DISTRIBUTION LINES — Verendrye Electric Co-operative, Velva, soon lets contract 575 mi. rural distr. lines, McHenry Co. $600,000. Banister Engr. Corp., 1547 University Ave., St. Paul, Minn., engr. CD 6/9/48—ENR 6/17/48.

LOW BIDDERS

Calif., Los Angeles—UNLOADING RAMP—City, P. Wks., 153 City Hall, Apr. 20, garbage unloading ramp, from Davies, Keusder & Brown, 4915 Exposition Blvd., **$84,970.** Est. $105,000.

La., New Orleans—WHARF—Bd. Comrs., Port of New Orleans, c/o low bidder, pile driving and concrete work, at Pauline Street Wharf, from R. P. Farnsworth & Co., 1515 S. Salcedo St., **$86,708.** CD 10/1/43—ENR 10/18/45.

†**Oregon** — TRANSMISSION LINE — Bonneville Power Admin., 729 N. E. Oregon St., Portland, Zone 8, Apr. 22, clearing right-of-way for and const. acting Lyons-Lebanon 230 kv transmission line, Inv. 4555, Linn Co., from Lee Hoffman, 535 S. E. Water St., Portland. **$228,245.** CD 4/6—ENR 4/14.

Tex., College Station—STADIUM—Agricultural and Mechanical College of Texas, College Station, Apr. 19, stadium and outdoor athletic area electric lighting sys., from Grimes Electric Co., 2408 Nueces St., Austin, **$50,000.** Lockwood & Andrews, Union Natl. Bank Bldg., Houston, engrs. CD 4/13—ENR 4/28.

●†**Alaska**—RAILROAD—Alaska Railroad, Dpt. Interior, Anchorage, Apr. 20, ballasting and rising of track and replacing ties, plus track turnout laying in siding extens. on 46.1 mi. between Caswell & Curry; 54.1 mi. between Nenana and Fairbanks, from William Smith & Co., 1401 Fairfax Trafficway, Kansas City, Mo., and Brown & Root, 4300 Calhoun Rd., Houston, Tex., **$1,944,655.**

CONTRACTS AWARDED

Pa., Phila.—SWIMMING POOL, etc.—Dpt. Pub. Welfare, Bureau Recreation, City Hall Annex, swimming pool and shelter bldg., 3 St. and Fairmount Ave., to Edwin E. Hollenback, Jr., 5546 Chestnut St., **$303,336.** Bids 4/5. CD 3/24—ENR 3/31.

Ont., Leitrim — WIRELESS STATION — Dominion Govt., Dpt. National Defense, Ottawa, wireless station remodeling, and extens., to Henri Dagenais, St. Patrick St., Ottawa. Approx. **$161,000.** Canadian Commercial Corp., 70 Lyon St., Ottawa, engrs.

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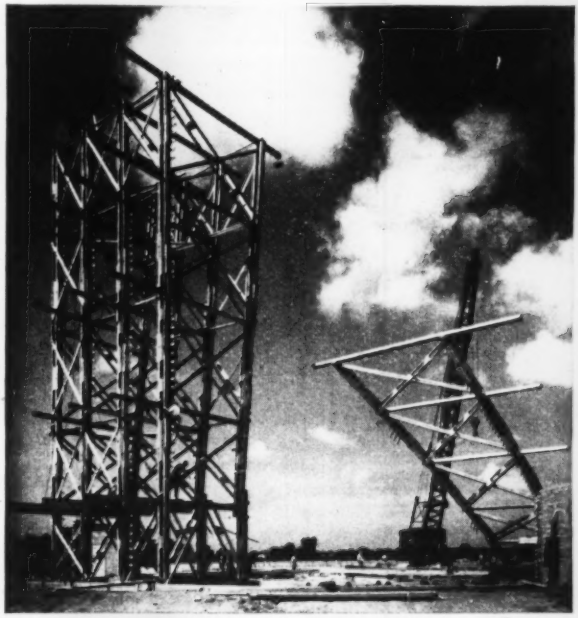

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Offices in Principal Cities

CONSTRUCTION REPORTS-Second Section

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WATER SUPPLY

BIDS ASKED

May 9

N. Y., New York—Comr. Water Supply, Gas & Electricity, Municipal Bldg., Zone 7, watermains, appurtenances, 67, 68, 73 Aves., 218 St. and Bell and Springfield Blvds., Queens Boro. Plans deposit $1.

May 10

N. Y., New York—Comr. Water Supply, Gas & Electricity, Municipal Bldg., Zone 7, watermains, appurtenances, 67, 68, 73 Aves., 218 St. and Bell and Springfield Blvds., Queens Boro. Plans deposit $1.

May 12

Ala., Decatur—City, 4 m. g. water filtration plant addn. Plans deposit $15. Polglaze & Basenburg, Empire Bldg., Birmingham, engrs. CD 9/8/48—ENR 9/30/48.

May 13

Ont., Belleville — P. Utilities Comn., 277 Front St., F. H. Wotten, chn., water purification plant exten. Approx. $70,000. Plans deposit $10. Gore & Storrie, 1130 Bay St., Toronto, engrs. CD 6/21/45—ENR 7/12/45.

4D, C., Wash.—U. S. Eng., First and Douglas Sts. N. W., Zone 25, exten. collector mains, Washington Aqueduct, McMillan Filtration Plant, Serial No. ₄Eng-49-080-49-148. CD 2/16/48—ENR 2/19/48, under LB.

Tex., Waco—City, c/o Herbert C. Davis, water supt., 6 m. g. water storage tank. $60,000. Plans deposit $15. Huber J. Rady, 811 Insurance Bldg., Fort Worth, engr. CD 7/23—ENR 8/5.

May 18

Tex., Levelland—City, Ray Watson, mayor, WW sys. imprvs., exten. $200,000. Joe E. Ward, 545 Nacol Bldg., Wichita Falls, engr. CD 4/13—ENR 4/21, under LB.

May 19

Calif., Long Beach—City, 215 W. Broadway, 54 in. rein.-con. watermains from Citizens Plant to Alamitos Reservoir, $250,000. Brennan S. Thomas, genl. mgr. CD 12/6/44—ENR 12/28/44.

Tex., El Paso—City, W. R. Collins, clk., El Paso, water treatment plant addn., imprvs. $100,000. Plans deposit $20. Ashley Glassen & Assoc., 504 N. Kansas St., engrs. CD 1/22/48—ENR 2/5/48.

Bids Asked

Tex., Houston—Plumb-Mitchell, Inc., 4550 Griggs Rd., waterlines, facilities, Winkler Dr. and Plumb Creek. $30,000. Joseph B. Reynolds, 3401 S. Shepherd St., proj. archt.

LOW BIDDERS

Ala., Hamilton—City, Apr. 14, WW imprvs., from E. N. Murray, Buena Vista, Ga., $60,695. CD 4/7.

California—State Div. Architecture, P. Wks. Bldg., Sacramento, Apr. 19, water sys. for N. W. Division of Beaches and Parks, Perry Creek State Park, Patrick's Point and Jurlington State Park, Humboldt Co., and Edward R. Hickey State Park, Mendocino Co., from Arcata Pump & Electric Co., 1010 G St., Arcata, $64,560. CD 4/5—ENR 4/7.

Calif., San Diego—City, Civic Center Bldg., Apr. 12, 52,200 ft. 20 in. steel cylinder pipeline Electric Ave. to Pacific Beach and LaJolla Area, from W. H. Barber, 7309 El Dajou Blvd., La Mesa, $94,244. CD 3/31.

Fla., North Miami Beach—City, water distr. sys., from Ediebrut Constr. Co., Ft. Myers, $299,557. CD 4/4.

Md., Towson—Baltimore Co., Court House, Towson, Apr. 25, water mains, sewers, etc., Contr. 161 D. S. & W., from Marocco Constr. Co., 231 S. Exeter St., Baltimore, $46,590. CD 4/14—ENR 4/21.

Mo., New London—City, Arler German, mayor, City Hall, Apr. 11, WW imprvs., distr. sys., from Reese Constr. Co., Quincy, $93,915; filter plant, from J. H. Nash Co., 6625 Delmar Blvd., St. Louis, Zone 5, $46,834.

O., Ashland—City, Apr. 1, 1½ m. g. expans. to existing WW, from Freeman Jones, 5007 Euclid Ave., Cleveland, $252,000. CD 3/9—ENR 3/17.

Ore., McMinnville—City, City Hall, imprv., Reservoir 2, to Henshaw Bros., 4006 N. E. Davis St., Portland, $43,560. Stevens & Koon, Spalding Bldg., Portland, engrs. CD 8/2/45—ENR 8/23/45, under Earthwork, Waterways.

Tex., Fort Worth—City, W. O. Jones, mgr., Apr. 19, 2 feeder mains for water sys., from Joe Bland Constr. Co., 3420 Worth Hills Dr., $141,093. Est. $160,000. CD 4/5—ENR 4/7.

Tex., Frankston—City, cancelled bids to have been opened Apr. 20, WW sys. imprvs., extens., $50,000. CD 4/6—ENR 4/7.

Tex., Littlefield—City, City Hall, Apr. 18, WW sys. imprvs., extens., from Standard Constr. Co., Lubbock, $36,211. CD 4/8.

Tex., Wharton—City, J. L. Santos, secy., Apr. 12, drilling, developing, gravel wall water supply well, 500,000 gal. steel water storage tank with rein.-con. fdn., from Layne-Texas Co., Ltd., 5402 Lawndale St., Houston, $34,641. Est. $80,000.

CONTRACTS AWARDED

Kan., Hays—City, Victor Wells, clk., City Hall, WW imprvs., incl. water supply, pipelines, well houses, to F. P. Young Constr. Co., Rte 3, St. Joseph, $60,551. Bids 4/19, awarded 4/20. CD 4/6—ENR 4/14.

Okla., Elk City—City, City Hall, 4 deep well turbine type pumps and piping connections and 4 gravel walled wells with casings and foundations, to Lane Western Co., 3140-48 Snelling Ave., Minneapolis, Minn., $37,380. CD 2/11—ENR 2/17.

Tex., Houston—West Ridge Homes, Inc., 4815 Richmond Rd., waterlines, own forces, $35,000. Hilton & Coulson, 3821 Fannin St., project archts.

Tex., Perryton—City, WW imprvs., to S. E. Lanier, Perryton, $126,740; elevated steel tank and tower, to Pittsburgh-Des Moines Steel Co., 1015 Tuttle St., Des Moines, Ia., $36,500. Bids 1/17. CD 1/26—ENR 2/3, under LB.

SEWERS, WASTE DISPOSAL

BIDS ASKED

May 9

Md., Towson—Comrs. Baltimore Co. Towson, 924 lin. ft. 18 and 21 in. rein.-con. pipe, 220 cu. yd. class A concrete for storm drains, 7,863 lin. ft. 6 and 8 in. vitr. clay sewers and house connections, 6,355 lin. ft. 6 and 8 in. c. i. watermains, Contr. 162DS & W. Plans deposit $5. Wm. F. Neale, ch. engr. CD 1/26/44—ENR 2/10/44, under Water Supply.

May 12

●O., Cleveland—City, L. J. Weil, dir., City Hall, E. 6 and Lakeside Sts., brick, concrete 10-11 ft. diam., storm sewer from E. 79 St. to Kingsbury Blvd. $1,000,000. Plans deposit $5. J. E. Wenrick, city engr.

Ont., Milton—Town, A. D. Sproat, clk., Town Hall, sewage treatment plant, incl. equip. Approx. $90,000. Gore & Storrie, 1130 Bay St., Toronto, engrs.

May 15

Ont., Collingwood—Mayor and Council Members, c/o Town of Collingwood, J. H. Faucett, clk., 6,000 lin. ft. 30-to 18-in. sanitary sewers, sewage pump station. Approx. $80,000. Plans deposit $10. Gore & Storrie, 1130 Bay St., Toronto, engrs. CD 12/18/47—ENR 1/8/48.

May 16

Calif., Belvedere—City, City Hall, sanitary sewerage sys., treatment plant. Approx. $50,000. Plans deposit $20. Charles H. Lee, 55 Sutter St., San Francisco, engr. CD 3/29—ENR 3/31, under LB.

Calif., Oakland—East Bay Municipal Utility Dist., 512 16 St., raw sewage pumping plant and grit chambers, Spec. SD-18. Approx. $50,000. Plans deposit $10. John Longwell, ch. engr. CD 11/13/46—ENR 12/28/46.

N. Y., Tonawanda—Town, Municipal Bldg., Kenmore, storm drains, Sect. F, approx. 7,650 ft. 7x7 ft. concrete conduit with special structures, manholes, appurtenances; Sect. H, approx. 4,400 ft. 54-to 78-in. rein-con. pipe with special structures, manholes, appurtenances; Sect. J, approx. 1,935 ft. 24-to 42-in. rein.-con. pipe, with special structures, manholes, appurtenances. Plans deposit $30, for Sect. J, $50 each for Sects. F and H. Nussbaumer & Clarke, 327 Franklin St., Buffalo, Zone 2, consult. engrs. adv. ENR 5/5. CD 3/25/46—ENR 4/4/46.

Ore., Central Point—City, City Hall, sewage disposal plant. Plans deposit $25. Harvey & Watkins, Goldy Bldg., Medford, engrs.

May 17

†Ariz., Yuma—U. S. Eng., 751 S. Figueroa St., Los Angeles, Calif., sewer and water sys. extens. incl. 7,920 ft. sewer lines and 4,365 ft. water lines at Engineering Research and Development Laboratories, $85,000. Col. A. T. W. Moore, 751 S. Figueroa St., Los Angeles, Calif., engr.

Calif., Plymouth—State Div. Architecture, P. Wks. Bldg., Sacramento, sewers and water services at 26th District Agricultural Assn. Anson Boyd, Sacramento, state archt.

Ind., Seymour—City, at office Ralph Lucas, city clk. City Hall, sanitary and storm sewer imprvs. $60,000. Plans deposit $20. E. H. Brown Assoc., Hanover, consult. engrs.

S. C., Greer—City, sewage disposal plant and exten. lines. Plans deposit $10. Wedeman & Singleton, Citizens and Southern Natl. Bank Bldg., Atlanta, Ga., engrs.

May 18

Calif., Los Angeles—City, P. Wks. 153 City Hall, 200 ft. stack rein.con. for filter drier bldg., inner shell lined with acid proof brick 75 ft. high, lightning proof, $200,000. Samuel Lundeen, 400 Rowan Bldg., archt.

Tex., Levelland—City, Ray Watson, mayor, sanitary sewerage sys. imprvs., extens. $300,000. Joe E. Ward, 545 Nacol Bldg., Wichita Falls, engr. CD 4/13—ENR 4/21, under LB.

Bids Asked

Tex., Houston — Plumb-Mitchell, Inc., 4550 Griggs Rd., sanitary sewers, drainage, Winkler Dr. and Plumb Creek. $50,000. Joseph B. Reynolds, 3401 S. Shepherd St., proj. archt.

LOW BIDDERS

Calif., Los Angeles—City Bd. P. Wks., 153 City Hall, Apr. 13, sanitary sewers in Airport Blvd. and 94 St. Sewer Dist., from Robert Vlacich, 2314 Carlyle Pl., $140,992. CD 3/31.

●Calif., Los Angeles—City Bd. P. Wks., 153 City Hall, Apr. 27, final units, Hyperion Activated Sludge Plant, El Segundo, aeration system, from Peter Kiewit Sons, Arcadia and Fred J. Early Jr., Inc., 369 Pine St., $6,169,337. CD 3/25—ENR 3/27.

Calif., Salinas — Pajaro County Sanitation Dist. c/o Monterey Co., Courthouse, Apr. 22, main sewer trunk lines, collection sys., Unit 1, from Granite Constr. Co., Box 900, Watsonville, $89,070. CD 4/13.

Kan., Osawatomie—State of Kansas, Topeka, Apr. 12, sewage plant, Kansas State Hospital, from Carothers, Constr. Co., Paola, $119,369. CD 3/22—ENR 3/24.

Mo., Sugar Creek — City, J. W. Gavin, clk., City Hall, sanitary sewer extens., Dists. 1, 2 and 3, from Chas. M. Buford, Box 121, Sugar Creek, $50,507. Chas. A. Haskins, 800 Finance Bldg., Kansas City, Mo., engr.

●Ore., Portland—City, City Hall, Zone 4, Apr. 26, 3 mi. 8 ft. concrete lined sewer tunnel for Peninsula unit, from General Constr. Co., 4550 Northwest Front St., $2,585,935. CD 3/29—ENR 3/31.

Pa., Torrance—Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, Apr. 20, sewage treatment plant addns. at Torrance State Hospital, from Meade Bros., Swartz Bldg., Punxsutawney, $168,770. CD 3/25—ENR 3/31.

Tex., Austin—City, Guiton Morgan, mgr., Apr. 12, sanitary sewers, adjacent Waller Creek 7 to 26 Sts., Contr. 0, from Joe Bland Constr. Co., Box 1158, $248,581. CD 10/14/46 — ENR 10/31/46.

Wash., Tacoma—City, City Hall, Apr. 11, sewers in L. I. D. 1813, Unit 3, Ferndale-Arlington Dist., from Woodworth & Co., 1200 East D. St., $63,344. D. E. Morris, city engr.

Wis., Turtle Lake—Village, Turtle Lake, Apr. 8, sewers, from Dan Borre, 841 Sherwood Ave., St. Paul, Minn., $78,000. Sewage treatment plant, from Moe & Bladholm, Stillwater, Minn., $56,680. CD 3/24—ENR 3/31.

Que., Hull—City, City Hall, sewers, watermains, Amherst and Lot Sts., from Hull Constr. & Paving Co., 187 Main St., Approx. $74,328. Theo Lanctot, c/o owner, engr. CD 4/1/48—ENR 4/15/48.

CONTRACTS AWARDED

Calif., Larkspur—City, City Hall, sewer outflow and pumping plant, to John Rocca, 415 5 St., San Rafael, Items 1 and 7, $78,046. Bids 4/13. CD 3/24—ENR 3/31.

Calif., Los Angeles—Los Angeles Co., 501 Hall of Records, 3.64 mi. 8-to 15-in. sanitary sewers in Rio Hondo area., and other streets, Rosemead, to Frank Chutuk 134 N. Bleakwood Ave., $92,312. Est. $90,350. Bids 3/29, awarded 4/5. CD 3/10—ENR 3/17.

Calif., Redwood City—San Mateo Co., Courthouse, Redwood City, Crystal Springs Outfall Sewer, to McGuire & Hester, 796-66 Ave., Oakland, $106,326. Bids 4/9, awarded 4/19.

Ga., Augusta—City, Storm Sewer Proj. 2, 24 in. concrete storm sewer in Ellis St. from Eve St. to Milledge Rd., to Claussen-Lawrence Co., Augusta, $61,047. Bids 3/11. CD 2/24—ENR 3/3.

Pa., Phila.—Dpt. P. Wks., City Hall Annex, sewers various locations, Schedule B-1, to Adam Leva, 145 W. Fern St., $117,159. Bids 4/11. CD 4/8.

S. D., Hot Springs—City, sewage plant, to Black Hills Ditching Co., Buell Bldg., Rapid City, $137,000. Bids 4/4. CD 4/17—ENR 3/24.

Tex., Houston—West Ridge Homes, Inc., 4815 Richmond Rd., sanitary and storm sewers, own forces, $70,000. Hilton & Coulson, 3821 Fannin St., project archts.

Wis., Milwaukee — City, City Hall, 200 E. Wells St., storm and sanitary sewers, N. Sherman Blvd. to A. Kehrein Co., 2666 N. 34 St., Zone 10, $37,743; N. 62 St., to L. & L. Service Co., 906 E. Center St., Zone 12, $13,585. Bids 4/11, awarded 4/13. CD 4/7.

BRIDGES

BIDS ASKED

May 19

N. C., Beaufort — Beaufort-Morehead Railroad Co., c/o Carr & Ellington Co., engr., 111 Corcoran St., Durham, altering Newport River Bridge. Approx. $50,000. Plans deposit $25.

May 20

Ont., Napanee — H. C. Schermerhorn, co. engr., c/o United Counties of Lennox and Addington, Court House, Napanee, 45 ft. span rein.-con. Wiggins Bridge, Concession 2, Lot 17, Richmond Twp., 40 ft. span concrete abutment, steel beam, Wilton Bridge, Concession 6, Lots 34 and 35, Ernestown Twp.; Newburgh Bridge imprvs., Camden Twp. Approx. $50,000. C. C. Parker, 63 John St., S. Hamilton, engr.

LOW BIDDERS

Connecticut—State Hy. Dpt., G. Albert Hill, state hy. comr., Hartford, Apr. 25, 504 ft. Cross Culvert 36 in. c.i. pipe on piled harbor front relocation U. S. Rt. 1, New Haven, from C. B. Blakeslee & Sons, 58 Waverly St., New Haven, $68,113. CD 4/20.

Kentucky—State Hy. Dpt., Frankfurt, Apr. 22, substructure, approaches, culvert, ap-

proaches at Plum Creek, substructure; approaches at Red River, 0.852 mi., Clay City-Irvine Rd., S. 401(2)-1; SP (33-23) (99-160), from M. T. Codell & Co., Inc., Winchester, **$73,439*****(Method B removal) superstructure bridge at Red River, Clay City-Irvine Rd., S 401(2)-2; SP (33-23) (99-160), from Allied Structural Steel Co., 20 N. Wacker Dr., Chicago, Ill., **$73,861*****culvert, approaches, substructure and superstructure (Method B removal) 0.852 mi. Plum Creek and Red River, S 401(2); SP (33-23) (99-160), from Terry & Steadman, Inc., Bay City, Mich., **$144,218**, all above in Estill and Powell Counties. CD 4/6—ENR 4/14.

Minnesota—State Hy. Dpt., St. Paul, received no bids Apr. 8, Bridge 5557 over Rapid River at Clementson, S. P. 3902-01 (TH 11-11), Minn., Proj. F 400 (15), Lake of The Woods Co. Approx. **$50,000**. CD 3/23—ENR 3/31.

North Carolina — State Hy. & Pub. Wks. Comm., Raleigh, Apr. 26, structures 8.67 mi. northeast along or near existing road through N. C. 41, from point approx. 900 ft. southwest of bridge over Northeast Cape Fear River, Chinquapin to point in Boulaville, Duplin Co., from Wannamaker & Wells, Orangeburg, S. C., **$67,463**. CD 4/15—ENR 4/21.

Texas—State Hy. Comn., Austin, Apr. 26, Trinity River Bridge, approaches, Hy. U. S. 75, Proj. UI 832 (13), Dallas Co., from M. E. Worrell and Worrell & Watkins, Junction, **$636,912** est. $485,000; rein.-con. bridges Hy. FM 486, C. 590-5-1, Milam Co., from McGinnes Bros., Inc., P. O. Box 2475, Houston, **$66,477** est. $75,000. CD 4/4—ENR 4/7.

CONTRACTS AWARDED

New Jersey — Spencer Miller, Jr., comr. State Hy. Dpt., Trenton, 0.561 mi. Grassy Sound Bridge approaches, bulkhead and completion of embankments, Route S-49, Sect. 5-A, Cape May Co., to Federal Foundations Corp., 215 E. 149 St., New York, N. Y., **$65,909**. CD 4/4—ENR 4/7.

STREETS AND ROADS

BIDS ASKED

May 9

N. Y., Flushing—President Queens Boro, Boro Hall, 120-55 Queens Blvd., New Gardens, Zone 15, b. conc. repaving, etc. Northern Blvd. from 208 St. to Bell Blvd.; Horace Harding Blvd. from Kissena to Parsons Blvds., and from 166 St. to Fresh Meadow Lane.; Horace Harding Blvd. from Douglaston Parkway to 253 St. CD 8/25/44—ENR 9/7/44.

May 10

Ia., Jefferson—Bd. Supervs. Greene Co., grav roads. Approx. $50,000. C. Arthur Elliott, Jefferson co. engr.

Michigan — Huron-Clinton Metropolitan Auth., 1100 Cadillac Sq. Bldg., Detroit, Zone 26, curb, gutter, c. conc. 2.3 mi. entrance road from Jefferson Ave. into St. Clair Metropolitan Beach, Macomb Co. Plans deposit $5.

N. Y., New York—Comr. Parks, at office Dpt. Parks, Arsenal Bldg., Central Park, 64 St. and 5 Ave., Zone 21, sheet asph. repaving Riverside Dr. between W. 85 and W. 105 Sts. and from W. 120 to W. 125 Sts. etc., Contr. No. M-71-149. Plans deposit $10. CD 8/2/45—ENR 8/23/45.

+Ohio—U. S. Engr., Madison Ave. and 8 St. W., Huntington, W. Va., surfacing entrance roads for Beach City, Charles Mill, Clendening, Dover, Mohawk and Pleasant Hills Dams, Muskingum River Reservoirs, Serial No. Eng-46-022-49-123. Extended date. CD 4/6— ENR 4/14.

May 11

Kan., Minneapolis—City, J. F. Pickrell, clk., City Hall, 5,000 cu. yd. excav., 10,600 lin. ft. curb and gutter, 1,300 sq. ft. concrete sidewalks, 15,600 sq. yd. reconditioned sub-grade and b. conc. surf. Plans deposit $10. Wilson & Co., 223 N. Santa Fe St., Salina, engrs.

May 12

O., Cleveland—Bd. Comrs. Cuyahoga Co., Frank Husak, clk., Courthouse, Lakeside and

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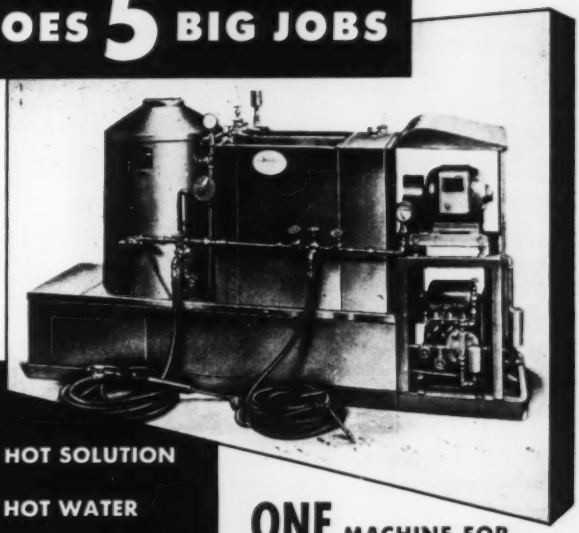

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Ontario Sts., b. conc. resurf. E. 131 St. between Union Ave. and South limit of city of Cleveland line, $88,900; relocate Old Rd. and construct new road about 6,000 ft. with b. conc. in village of Gate Mills and Huntington Valley, on Chagrin River Rd. from Berkshire Rd. to Fairmount Blvd. $378,000. Plans deposit $20 each. A. S. Porter, Standard Bldg., co. engr. CD 11/12/43—ENR 11/18/43.

May 14

Ont., Owen Sound—A. S. Stewart, city clk., City Hall, pave various streets. Approx. $75,000. G. N. Brisco, c/o owner, engr.

May 17

†**California**—Public Roads Admin., Phelan Bldg., San Francisco, 3.887 mi. hy. imprvt., Calif. FH-48-B1, Huntington Lake, Sierra National Forest. Plans deposit $10. C. C. Morris, div. engr.

Puerto Rico—Bd. Awards, Dpt. Interior, Jorge J. Jiminez, comr., construct 0.159 km. of Proj. S-31 (1) Mayaguez-Las Marias Rd. incl. bridge across Yaguez River, Mayaguez Municipality. Plans deposit $20. CD 9/24/45—ENR 10/4/45.

Bids Asked

Tex., Houston—Plumb-Mitchell, Inc., 4550 Griggs Rd., asph. street paving, 17 acre plot, Winkler Dr. and Plumb Creek. $80,000. Joseph B. Reynolds, 3401 S. Shepherd St., proj. archt.

LOW BIDDERS

Connecticut—State G. Albert Hill, state hy. comr., Hartford, Apr. 25, rein.-con. 4 lane divided hy. from West Tunnel to Dixwell Ave., Conn. Rt. 10, Wilbur Cross Parkway, Hamden-New Haven, from D. V. Frione & Co., 87 Foxon Rd., New Haven, **$367,201**; b. conc. resurf. 13.346 ft. Merritt Parkway 2 sections in 2 towns, New Canaan and Stamford, from Leverey & Hurley Co., 125 Admiral St., Bridgeport, **$94,831**. CD 4/14—ENR 4/21.

Idaho—State Hy. Dpt., Boise, b. conc. Elk River Hy. between Bovill and Clarkia, Latah and Shoshone Counties, from Clifford & Applegate, Yardley St., Spokane, Wash., **$242,257**. CD 9/22—ENR 10/14.

Idaho—State Hy. Dpt., Boise, Apr. 22, grav. surf. 4 mi. Dingle-Wardboro Rd., Bear Lake Co., from Passon & Fife, Brigham City, Utah, **$95,537**. CD 4/13.

Kentucky—State Hy. Dpt., Frankfort, Apr. 22, bit. surf. Class I, 1.047 mi. U 509 (2), SP (42-408) (42-8), Graves Co., from S. J. Boone, Owensboro, **$111,233*****traffic bound limestone 5.5 mi. West Liberty-Paintsville Rd., S 478 (3), SP 88-38, Morgan Co., from Kentucky Road Oiling Co., Frankfort, **$127,536*****traffic bound limestone 5.158 mi. Vineyard Rd., RS 16-376, Davis Cross Road, Logan Co. line Rd., RS 16-436, Butler Co., from Fount Crow, Ltd., Beaver Dam, **$57,971*****traffic bound river grav. 3.33 mi. South Fork-Whites Run Rd., RS 21-212, Carroll Co., from John Harmon, Bedford, **$84,662*****local bank or creek grav. 8.175 mi. New Home Church-Golo-Farmington Rd., RS (42-628) (42-528), Graves Co., from Corbett Davidson & Son, Mayfield, **$72,914*****bit. surf. Class C-1, 7.323 mi. Ash Run Rd., RS 96-251, Pendleton Co., from The Fuller-Davies Co., Covington, **$82,511*****bit. surf. Class C-2 and A-2 seal, 8.3 mi. Fulton Co., SP Group 16 (1949), from Porter-Dewitt Constr. Co., Poplar Bluff, Mo., **$62,271**. CD 4/6—ENR 4/14.

Mich., Grand Rapids—City, paving 5 west side streets, from P. Vander Veen & Sons, 229 Newark Ave., S. E., **$61,344**. CD 11/13/44—ENR 11/30/44.

Minnesota—State Hy. Dpt., St. Paul, Apr. 8, grading, gray. base, concrete box culverts, S. P. 6905-07 (TH-166), S. P. 3801-02 (TH 1-166) and S. P. 3802-04 (TH 1-166), Forestry Hy. Proj. F A (1), F and I, from W. C. Griffis Co., Barley, **$366,636**. CD 3/23—ENR 3/31.

North Carolina—State Hy. & P. Wks. Comn., Raleigh, Apr. 26, traffic bound macad., c. conc. 6.96 mi. U. S. 64 and 421, Part 1, from Randolph Co. line, east to point approx. 1.4 mi. east of U. S. 421; Part 2, from point just north of Siler City, south 1.1 mi. to point in Siler City, Proj. 4075, Chatham Co., from Rea Constr. Co., Box 2015, Charlotte, **$354,228*****c. conc. 1.96 mi. from intersections of U. S. Rt. 29 and 70, and Lee St. at Guilford Co. Fair grounds, east along Lee St. to South Elm St. in Greensboro, Proj. 5225, Guilford Co., from Thompson-Arthur Constr. Co., Box 1197, Greensboro, **$558,232*****traffic bound macad., sand asph. surf. 8.22 mi. county road from Sampson Co. line to Willard, Betterment Sect. 3-7-3317, Pender Co., from Towles-Clire Constr. Co., Box 167, Wilmington, **$150,683*****sand asph. surf. 18.3 mi. Part 1, from Bell's Cross Roads to Edgecombe Co. line at Penny Hill, Part 2, from Bell's X roads to U. S. 64, 3 mi. west of Bethel, Part 3, from N. C. Route 11 in Bethel to Martin Co. line, Proj. 2-556, Pitt Co., from Barnes Constr. Co., Box 561, Kinston, **$109,296*****traffic bound macad., bit. concrete binder and surf. course 7.61 mi. U. S. 258, from point 100 ft. south of Halifax-Edgecombe Co. line, north to point in Scotland Neck, Proj. 1384, Halifax Co., from Dickerson, Inc., Monroe, **$128,649*****sand asph. base and surf. or sand bit. surf. 8.67 mi. N. C. 41, from point approx. 900 ft. southwest of bridge over Northeast Cape Fear River, northeast along or near existing road through Chinquapin to point in Beulaville, Proj. 2223, Duplin Co., from Wayne Eng. & Constr. Co., Inc., Box 254, Mount Olive, **$162,110*****c. conc. and structures 1.14 mi. U. S. Route 220 from point on U. S. 220

approx. 4.7 mi. north of Stoneville, north to point on U. S. 220 at Virginia State Line, Proj. 5913, Rockingham Co., from W. E. Graham & Sons, Cleveland, **$172,096*****grading 12.87 mi. from point in Richlands, southeast to intersections with U. S. Route 17, 1.2 mi. east of Jacksonville at Sabistan Crossroads, Proj. 2-451, Onslow Co., from N. F. Eure, Beaufort, **$84,148.** CD 4/15—ENR 4/21 and CD 4/20.

N. C., Thomasville—City, Mayor English, Thomasville, Apr. 4, street paving and incidental underground work, curb and gutters, from Gilbert Eng. Co., Inc., Statesville, **$51,875.** CD 3/30—ENR 4/7.

● **Pennsylvania**—Pennsylvania Turnpike Comn., 11 N. 4 St., Harrisburg, Apr. 26, grading, drainage structures and paving 5.33 mi. Sect. 24 A, Philadelphia Extension from point 250 ft. west of L. R. 38032 in S. Londonderry Twp., easterly 25,124 ft. to point 3,850 ft. east of the Reading and Cornwall R. R., Leonntownship, Lancaster and Lebanon Counties, from The Harrison Constr. Co., 1101 Western Ave., Pittsburgh, **$3,381,286.** CD 4/5—ENR 4/7.

South Carolina—State Hy. Dpt., Columbus, rejected bids Apr. 19, bit. 9 mi. Roads 27 and 75, S. C. Docket 26.266, Horry Co. L. B. **$123,274.** CD 4/8—ENR 4/14.

Tenn., Jackson—City Comn., imprv. nine streets, from C. V. Harris, Jackson, **$55,948.**

● **Texas**—State Hy. Comn., Austin, Apr. 26, soil asph. base and seal coat 18.222 mi. Hy. FM 561, S. 902 (1) and S. 910 (1), Bowie Co., from L. H. Lacy Co., 560 Yale Blvd., Dallas, **$175,949** est. **$178,000*****flexible base and asph. surf. tr. 10.189 mi. Hy. 20, F 187 (12), Bastrop Co., from McKown & Sons, Box 151, Austin, **$217,903** est. **$185,000*****c. conc. wid'n., resurfacing hot mix b. conc. 4.876 mi. Hy. U. S. 80, Proj. FI 363 (10) and F. 363 (11), Van Zandt Co., from Texas Bitulithic Co., Box 5297, Dallas, **$209,602** est. **$187,000*****hot mix b. conc., asph. underseal and flexible base shoulders 12.559 mi. Hy. U. S. 59, F. 426 (9), San Jacinto Co., from Public Constr. Co., P. O. Box 380, Denton, **$131,398** est. **$152,000** ***grading, structures 16.176 mi. Hy. U. S. 67, Proj. FI 421 (5), FI 809 (2) and F 809 (3), Hopkins and Hunt Counties, from Wallace & Bowden, 5513 E. Grand Ave., Dallas, **$646,367** est. **$680,000*****c. conc. 2.745 mi. Hy. U. S. 77 Proj. FI 214 (8), Cooke Co., from Worth Constr. Co., Box 531, Fort Worth **$188,456** est. **$180,000*****grading, structures 4.832 mi. Hy. 16, C-7-5, Palo Pinto and Eastland Counties, from Fred Hall & Son, Valley Mills, **895,741** est. **$116,000*****prime coat, asph. surf. tr. 9.214 mi. Hy. FM 782, Rusk Co., from Dave McCullough, Marshall, **$56,988** est. **$51,-000*****grading, structures, c. conc. wid'n., 9.549 mi. Hy. US 290, Proj. C 50-4 and 5-6 and 14 and C 114-11-17, Waller Co., from R. R. Darby & Co., Pharr, **$168,323*****soil asph. base and base preservative 1.125 mi. Hy. FM 363, S. 38 (6), Newton Co., from L. W. Pelphrey, Gladewater, **$148,899** est. **$156,000***** grading, structures Hy. US 75, Proj. FI 32 (13), Harris Co., from M-K Constr. Co., Beeville, **$245,853** est. **$205,000*****flexible base, double asph. surf. tr. 4.806 mi. Hy. US 75, Montgomery Co., and flexible base, prime coat and single asph. surf. 7.453 mi. Hy. FM 848, S. 1172 (1), Smith Co., from F. C. Herring, Kurten, **$68,836** est. **$68,000** and **866,348** est. **$73,000** respectively. CD 4/4—ENR 4/7.

Tex., Jourdanton—Atascosa Co., Matt Davis, Jr., Judge, Jourdanton, **Mar.** 25, drainage structures, asph. surf. tr. 21 mi. roads, from D. R. Cloud & Sons, Transit Tower Bldg., San Antonio, **$147,272.** Est. $125,000. CD 3/18.

Virginia—State Hy. Dpt., Richmond, rejected bids Apr. 14, c. conc. paving 2.93 mi. dividing highway, utilizing portion existing roadway and joining another section which had been completed to north of Oak Hill, U. S. Route 13, Accomack Co., L. B. **$340,306.** Will re-advertise. CD 4/20—ENR 4/28, under LR.

● **Wisconsin**—State Hy. Comn., Madison, Apr. 26, c. conc. 3.299 mi. S. T. H. 55, Granville Rd., C. T. Hy. F. Contr. 1, Proj. S 0353 (1), Milwaukee Co., from P. W. Ryan Sons, Janesville, **$259,813*****c. conc. 5.661 mi. and 0.126 mi. Green Bay-Bellevue Rd., U. S. Hy. 141, Contr. 1, Proj. F 020-3 (12) and T 0439 (1), Brown Co. and c. conc. 9.755 mi. Appleton-Green Bay Rd., Kaukauna-DePere Rd., U. S. Hy. 41, Contr. 1, Proj. F 03-2 (18) and FAP F 03-2 (19) Outagamie and Brown Counties, from Schuster Constr. Co., Denmark, **$415,-382** and **$558,164** respectively***c. conc. 13.441 mi. Prentice-Clifford-McCord-Rhinelander Rd., U. S. Hy. 8, Contr. 1, Proj. F 021-2 (22), (34) and (35), Oneida, Lincoln and Price Counties, from N. M. Isabella, Inc., 714 Market Pl., Madison, **$424,766*****c. conc. 8.903 mi. Ladysmith-Prentice Rd., Hawkins-Prentice Rd., U. S. Hy. 8, Proj. F 021-2 (36), Price Co., from Universal Eng. Co., Medford, **$300,348.**

c. conc. 8.484 mi., 0.511 mi. and 9.359 mi. Cuba City-Platteville Rd., Main St. (City of Cuba City), S. T. Hy. 80, Proj. T 0517 (2) and T 0517 (3), Grant Co., from Koch Constr. Co., 239 W. Center St., Milwaukee, **$315,932** ***grav. or crushed stone surf. 7.589 mi. Webster-Danbury Rd., S. T. Hy. 35, Contr. 1, Proj. T 028-4 (1), Burnett Co., from McLean-Astleford Co., 400 W. 78 St., Minneapolis, Minn., **$150,765*****erosion control and drainage items, S. T. Hy. 133 and C. T. Hy. U, British Hollow-Potosi Rd., Contr. 1, Proj. T 0204 (1) and T 0573 (1), Grant Co., from Northwestern Constr. Co., Middleton, **$117,-429*****grav. or crushed stone surf. 8.365 mi.

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Augusta-Fall Creek Rd., U. S. Hy. 12, Proj. T-06-4 (8), Eau Claire Co., from H. T. Smith, Hixton, $52,936***grav. or crushed stone surf. 11.153 mi. Grandview-S. T. H. 112 Road, U. S. Hy. 63, Proj. T 011-2 (4), Bayfield Co., from Otto Wiesner, Inc. & Otto Wiesner, Superior, **$87,326.**

grav. or crushed stone surf. 11.046 mi. Mineral Point-South Co. Line and Mineral Point-Hollandale Rd., S. T. Hys. 23 and 39, Proj. S 0360 (5) and T 0356 (1), Iowa Co., from Rein & Dahl, Stoughton, **$149,040***** bit. 3.116 mi. West County Line-Browntown Rd., S. T. Hy. 11, Contr. 2, Proj. F 030-2 (11), Green Co., from Arrow Petroleum Co., Forest Park, Ill., **$96,837*****bit. 18 mi. West County Line-Lyndon Station Rd., U. S. Hy. 12 and 16, Contr. 1, Proj. T 06-3 (5), Juneau Co. from Mathy & Thornton Constr. Companies, 508 Hoeschler Bldg., LaCrosse, **$384,872*****bit. 8 mi. Hudson-Hammond Rd., U. S. Hy. 12, Proj. T 06-4 (9), St. Croix Co., from J. W. Craig Co., 1814 N. E. California St., Minneapolis, Minn., **$185,393*****bit. 7.423 mi. and 0.294 mi. Chippewa Falls-Cabot Rd. and Lincoln St. (City of Augusta), S. T. Hy. 29 and U. S. Hy. 12, Projects T 020-1 (6) and T 06-4 (7), Chippewa and Eau Claire Counties, from Rein & Schultz, 119 E. Washington Ave., Madison, **$201,459.** CD 4/8—ENR 4/14.

CONTRACTS AWARDED

Calif., Los Angeles—City, Bd. P. Wks., 153 City Hall, grading, paving Ave. 52 and Griffin Ave. exten., to S. A. Cummings, 421 W. Rosencrans Ave., Compton, **$87,518.** Bids 2/9—ENR 4/15. Lloyd Aldrich, city engr.

●**Maryland**—State Hy. Dpt., Baltimore, c. conc. 1.241 mi. dual hy., grade separation structures, approaches at Ridge Rd., Contr. AA-368-6-358, Howard Co., from Geo. Hyde-Hamill & Co., 10 W. 25 St., Baltimore, **$851,233;** CD 4/7—ENR 4/14, under LB. surf., grading 7.26 mi. relocated section Rt. 413, S 156-1-115, Somerset Co., to C. J. Langenfelder & Son, Inc., 8427 Pulaski Hwy., Baltimore, **$1,162,275,** CD 3/29—ENR 3/31, under LB.

●**Minnesota**—State Hy. Dpt., St. Paul, to W. Hodgman & Sons, Fairmont, plant-mixed bit. surf. S. P. 6904-15 (TH 1-35) F 519 (8), **$77,386;** grav. base, crushed road mixed bit. surf. S. P. 1206-16 (TH 29-38) and S. P. 1207-09 (TH 29-38) F 49 (6), S. P. 1206 15 (TH 29-39), F 128 (6) **$217,344*****to Duininck Bros. & Helchrist, Olivia, road-mixed bit. surf. 43 mi. Maintenance Dist., **$57,269;** grav. base and plant mixed bit. surf. S. P. 5902-10 (TH 23-88), F 475 (7), **$229,452;** grav. base, bit. surf. storm sewer, curb-gutter, S. P. 7602-04 (TH 9-10), S. P. 7604-04 (TH 12-26) S. P. 7605-07 (TH 12-10), S. P. 7607-10 (TH 29-53) and S. P. 7608-08 (TH 28-38), F 211 (2) F 401 (30) F 313 (2) and F 48 (6), **$100,760*****to Megarry Bros., St. Cloud, grav. base, plant mixed bit. surf. S. P. 4306-13 (TH 15-151) S. P. 4305-07 (TH 15-151) and S. P. 4307-05 (TH 22-22), F 944 (9) and F 338 (11), **$86,884***** to E. W. Coons, Inc., Hibbing, grav. base, plant mixed bit. surf. S. P. 3116-17, (TH 169-35) F 453 (6), **$280,250*****to Griffers Constr. Co., Mankato, grav. base, road mixed bit. surf. S. P. 1208-04 (TH 29-38) and S. P. 7607-09 (TH 29-38) F 128 (7) and F 48 (7), **$110,023*****to Alexander Constr. Co., 4641 Hiawatha Ave., Minneapolis, grav. base and road mixed bit. surf. S. P. 6009-06 (TH 59-174) and S. P. 6302-05 (TH 59-174) F 466 (8), **$118,552*****to Minnesota Valley Improv. Co., Granite Falls, road mixed bit. surf. stockpiling, mineral aggregates Maintenance Dist., **$67,375.** Grand total $1,345,295. CD 3/23—ENR 3/31.

Minn., Rochester—Olmstead Co., Frances L. Underleak, aud., Rochester, grading, crushed rock wearing course, bit. surf. Proj. 1-1-1 (SAR 3), Minn. Proj. S. 422 (1), to L. Joyce, Rochester, **$75,821.** Bids 4/12. CD 3/23—ENR 3/31.

Nevada—State Hy. Dpt., Carson City, 10.089 mi. highway from Henderson to Boulder City, Clark Co., to Dodge Constr. Co., N. Maine St., Fallon, **$150,645.** Bids 4/19. CD 4/6.

New York—Bureau Contracts & Accounts, Albany, reconstructing 12.48 mi. roads between Romulus Center and Seneca Falls, Seneca Co., to J. B. C. Constr. Co., Inc., Lancaster, **$561,570.** Bids 2/16. CD 2/18. —ENR 2/24, under LB.

N. C., Asheville—City, Weldon Weir, dir. P. Wks., Asheville, resurfacing 26 city streets. Owner builds. **$57,500.**

Okla., Oklahoma City—Steve Pennington, Apco Tower, c. conc. 11 residences streets in Pennington's 4th Addn., to Hollow Constr. Co., 2112 N. W. 33 St., **$51,600.** Est. $55,000. CD 11/15—ENR 12/23.

●**South Carolina**—State Hy. Dpt., Columbia, to Sloan Constr. Co., Inc., Greenville, bit. 1.199 mi. Roads 49, 20 and 28, S. C. Docket 37.280, etc., Oconee Co., **$123,580;** bit. 7.509 mi. Roads 33, 23, 41 and 85, S. C. Docket 33.243, etc., McCormick Co., **$89,994;** resurf. 52.8 mi. U. S. Route 76 and State Rt. 130 and Road 14, S. C. Dockets 37.1015 and 39.1031, Oconee and Pickens Counties, **$115,639;** resurf. 32 mi. U. S. Route 29, States Routes 5 and 8, and road 32, S. C. Docket 11.1019, 11.1020 and 12.1037, Cherokee and Spartanburg Counties, **$87,491*****to Boyle Constr. Co., Sumter, bit. and wid'n. 0.297 mi. West Liberty St., S. C. Docket 43.274, Sumter Co., **$114,452*****to Blankenship Bros., 1319 W. Trade St., Charlotte, N. C., bit. 7.1 mi. Roads 44 and 16, S. C. Docket 44.250, Union Co., **$68,988.**

To Ballenger Paving Co., Greenville, bit. 11.364 mi. Roads 34, 80, 55, 51, 49 and 42, S. C. Docket 11.257, Parts 1, 2, 3, 4 and 5, Cherokee Co., **$112,600;** wid'n. 0.795 mi. Ridgeland, S. C. Docket 27.231.2, Jasper Co., **$90,408;** resurf. 15.956 mi. U. S. Route 15, S. C. Docket 35.1012, Marlboro Co., **$78,064;** resurf. 36.4 mi. State Routes 5, 93 and 906, S. C. Docket 12.1019, etc., Chester, Fairfield and Lancaster Counties, **$103,062***** to James T. Lokey Contg. Co., Augusta, Ga., bit. 9.281 mi. Roads 32, 50 and 46, S. C. Docket 12.263 and 12.257, **$112,166;** bit. 7.1112 mi., Roads 70, 27, C. 42, 36 and 44, S. C. Docket 25.255 Parts 1, 2, 3, 4 and 5 and 6, Hampton Co., **$83,047*****to W. L. Cobb Constr. Co., Decatur, Ga., bit. 16.219 mi. Roads 35, 46, 45, 40 and 81, S. C. Dockets 12.250, Parts 1, 2, etc., Colleton Co., **$158,359*****to E. H. Hines Constr. Co., Inc., Greenwood, bit. 11.71 mi. Roads 19 and 25, S. C. Docket 18.242, Parts 1, 2, etc., Dorchester Co., **$134,049*****to Cherokee, Inc., Sumter Hy., Columbia, bit. 10.705 mi. Roads 76, 71, 19 and 18, S. C. Docket 28.260, etc., Kershaw Co., **$118,311*****to Asher & Co., Inc., Whitmire, bit. 11.367 mi, Route 72, S. C. Docket 124.211-2, Abbeville and Greenwood Counties, **$334,186.**

To Claussen-Lawrence Constr. Co., Augusta, Ga., bit. 3.597 mi. Roads 119, 167, 169, 170 and 172, U-290 (2), Aiken Co., **$88,191*****to Towles-Cline Constr. Co., Front St. exten., Wilmington, resurf. 24.1 mi. U. S. Route 17 and State Route 3, S. C. Docket 26.1020, Horry Co., **$72,363;** resurf. 22.5 mi. State Rt. 3 and U. S. Route 78, S. C. Docket 6.1010, Barnwell Co., **$82,897;** resurf. 28.4 mi. U. S. Route 52 and Roads 12, 14, 18 and 27, S. C. Docket 8.1015 and 8.1016, Berkeley Co., **$136,867*****to Georgia-Alabama Paving Co., 2011 Andrews Rd., Columbus, Ga., resurf. 32.2 mi. State Rt. 39 and Roads 14 and 16, S. C. Docket 41.1009, Saluda Co., **$92,049***** to M. J. Carroll Contr. Co., Leesburg, Fla., resurf. 34.9 mi. U. S. Route 21, State Routes 55.161 and 274, S. C. Dockets 46.1014, 46.1015 and 46.1016, York Co. **$136,048*****to Mac Asphalt Corp., Lakeland, Fla., resurf. 32.3 mi. State Rt. 45, S. C. Docket 8.1014 and 28.1017, Berkeley and Orangeburg Counties, **$101,289.** Grand total $2,664,030. CD 4/8—ENR 4/14.

Tex., Hale Center—**Hale Co.**, Courthouse Bldg., Plainview, farm-to-market road constr., own forces, **$85,000.** CD 1/12/48—ENR 1/22/48.

Tex., Houston—Owner c/o V. L. Evans, State National Bank Bldg., grading, asph. paving streets, northwest sect. of city, own forces, **$60,000.** Engr. Robert M. Atkinson, 1st. Natl. Bank Bldg., consult engrs.

Tex., Houston—West Ridge Homes, Inc., 4815 Richmond Rd., site grading, street paving, own forces, **$64,000.** Hilton & Coulson, 3821 Fannin St., project architects.

Tex., Fort Arthur—C. O. Dunn, Port Arthur, grading, street paving, for an Industrial area development, own forces, **$77,000.**

Tex., San Angelo—Tom Green Co., Courthouse, surfacing and road drainage, Precinct 4, force account. **$65,000.** CD 1/16/46—ENR 2/7/46.

Tex., Uvalde—Uvalde Co. Courthouse, farm-to-market road constr., approx. 15 mi. part of road between U. S. Hy. 90 and Blewitt, toward asphalt mines, **$110,000;** 15 mi. between Utopia and Rio Frio, **$90,000,** own forces. CD 11/11—ENR 11/25.

Wash., Everett—City, City Hall, asph. paving 4 St. between Rucker and Broadway, to Northwest Constr. Co., 3950 6 Ave. N.W., Seattle, **$80,162.** G. G. Paine, city engr. CD 7/13/45—ENR 7/23/45.

Wis., Milwaukee—City, City Hall, 200 E. Wells St., paving Alley W. Capitol Dr., Alley W. Burleigh St., W. Blue Mound Rd. and W. Locust St., to Ray M. Moths Co., **3901** W. Rohr Ave., Zone 9, **$56,492.** Bids 4/12, awarded 4/14. CD 4/7.

EARTHWORK, WATERWAYS

BIDS ASKED

May 10

†**Indiana** — U. S. Eng., 830 West Broadway, Louisville, Zone 3, Ky., grade raise for levee unit 8, White River, Wabash River Basin, Daviess Co., Serial No. Eng., 15-029-49-125.

†**Md., Annapolis**—P. Wks., Office, Naval Academy, dike, dredging and fill, U. S. Naval Engr. Experiment Station.

†**North Dakota**—U. S. Eng., Fort Lincoln, Box 300, Bismarck, levee and appurtenances, near Mandan, Inv. No. Eng-32-015-49-79. Extended date. CD 4/19—ENR 4/21.

May 11

†**N. Y., Berlin**—U. S. Eng., 120 Wall St., New York Zone 5, reconstruct retaining wall on Little Aboosic River, approx. 1/10 mi. south of here, Serial No. Eng-39-075-49-269.

May 12

†**Louisiana**—U. S. Eng., foot of Prytania St., New Orleans, Zone 9, waterway from Empire, La. to Gulf of Mexico, Plaquemines Parish, south shore Pelican Island, La., approx. 10 mi. south of Empire, La., and 26 mi. northwest of mouth of Southwest Pass of Mississippi River, Serial No. Eng. 16-047-49-266.

†**Missouri**—U. S. Eng., 601 Davidson Bldg., Kansas City, Mo., emergency repairs to levees, Nodaway River, Maitland, Serial No. Eng., 23-028-49-187. CD 3/29—ENR 3/31.

†**Nebraska-Wyoming**—Bureau Reclamation, Dpt. Interior, Casper, Wyo., Parshall flume, on Fort Laramie Canal, at Station 41 plus 01.5, Rehabilitation and Betterments Program, North Platte Proj., approx. 5½ mi. west and 2 mi. north of Fort Laramie, Wyo.

May 13

†**Missouri**—U. S. Eng., 601 Davidson Bldg., Kansas City, Mo., relocation and repair of levee on Missouri River incl. 62,000 cu. yd. earthfill, 1,000 cu. yd. compacting embankment, 3,000 cu. yd. excav. and waste, Levee Dist. 2, Ray and Carroll Counties, Inv. 203.

About May 17

†**Minnesota and Iowa**—U. S. Eng., 1217 U. S. Post Office and Custom House, St. Paul 1, Minn., access road, Locks and Dam 3, approx. 6 mi. upstream from Red Wing, Minn., and Lock and Dam 10, Guttenberg, Ia.

†**North Dakota**—U. S. Eng., 1217 U. S. Post Office and Custom House, St. Paul 1, Minn., excav., constructing of concrete spillway, complete compacted earthfill embankment, etc., Stage No. 2, Homme Dam, Park River. Plans deposit $10.

May 17

†**Arkansas**—U. S. Eng., P. O. Box 97, Memphis, Tenn., placing approx. 30,000 cu. yd. earth and installing 3 corrugated metal pipe structures with appurtenances, White River Levee Dist., Woodruff, Monroe and Prairie Counties, Serial No. Eng-40-041-49-128.

†**Indiana** — U. S. Eng., 830 W. Broadway, Louisville, Zone 3, outlet works, operating tower, Cagles Mill Reservoir, Mill Creek, Serial No. Eng. 15-023-49-127.

†**Mississippi**—U. S. Eng., P. O. Box 97, Memphis, 10, Tenn., 200,000 cu. yd. earthwork, etc., repair rainwash on levee along left bank Mississippi River, Upper Yazoo Levee Dist., Levee Stations, 0/0 to 2/30, 4/30 to 29/20, 33/29 to 37/24, Levee Item No. 3-702R, Wallo to Tunica, Desoto and Tunica Counties, Serial No. Eng. 40-041-49-127.

†**North Dakota**—U. S. Eng., Fort Lincoln, Box 300, Bismarck, West Abutment grout curtain, Garrison Dam and Reservoir, Riverdale, Mercer Co., Serial No. Eng-32-015-49-82. CD 6/1/44—ENR 6/15/44.

†**Utah** — Bureau Reclamation, Dpt. Interior, Bldg 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Soldier Summit, two 15,000-20,000 lb. capacity, motor-operated gate hoists, incl. hoist dials, but not incl. transmitters and appurtenant parts or bottom stem guard for Scofield Dam outlet Works, Scofield Proj. Spec. 2644.

June 17

●†**Louisiana**—U. S. Eng., foot Prytania St., New Orleans, Zone 9, concrete structure, 2 gates, 182,000 cu. yd. excav., 3,665 cu. yd. concrete, 513,000 lb. reinforcing steel, sector gates, Schooner Bayou Control Structure, Vermillion Parish, Serial No. Eng. 16-047-49-282. $1,000,000-$2,000,000.

LOW BIDDERS

†**Arkansas**—U. S. Eng., foot of Prytania St., New Orleans, La., apr. approx. 495,000 cu. yd. semi-compacted earthwork levees, Red River Levees, Lafayette Co., from M. E. Pollard, Bossier City, La., **$106,500.** Est. $87,151.

†**Arkansas**—U. S. Eng., 300 Broadway, Little Rock, Apr. 11, Lots 1 and 11, Arkansas River Watershed, Levee Embankment, North Little Rock to Gillett (Above Plum Bayou) Plum Bayou Levee Dist., Arkansas River, Serial No. Eng-03-050-49-59, from H. N. Rodgers & S. K. Jones, Sterick Bldg., Memphis, Tenn., **$136,838.** Est. $129,799. CD 4/6.

●†**Calif., Long Beach**—Harbor Dpt., 1333 Embarcadero, Apr. 15, hydraulic fill 7,600,000 cu. yds. dredging and transporting at Long Beach Harbor, from Pranko Dredging Co., 845 Ventura Pl., Mission Beach, **$1,579,000.**

●†**Ky., Newport**—U. S. Eng., 830 W. Broadway, Louisville, Apr. 26, local protection proj., floodwall, Sect. II, Part I, from Traylor Bros., Station B, Box 66, Evansville, Ind., **$1,220,370.** CD 3/29—ENR 3/31.

†**Montana**—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., Apr. 21, Schedule 1, three penstocks, 1 pumping intake, appurtenances, Canyon Ferry Dam, Canyon Ferry Unit, Missouri River Basin Proj., Spec. 2577, from Pacific Coast Eng. Co., Alameda, Calif., **$108,590.** CD 4/5—ENR 4/7.

†**O., Cincinnati**—U. S. Eng., P. O. Box 59, Louisville 1, Ky., rejected bids Apr. 6, recorder wells and office bldg., alterations and repairs at pump stations and gates, Eng-15-029-49-20. CD 3/14—ENR 3/17.

●†**Virginia**—U. S. Eng., foot of Front St., Norfolk, Apr. 26, from James Leffel Co., 426 East St., Springfield, O., Schedule 1, turbines and governors, two 9,400 hp. units at 257 r.p.m. **$249,554;** Schedule 2, turbine and governor 860 hp. unit, **$38,665;** Schedule 3, turbines, 9,400 hp. unit, **$210,705;** Schedule 4, turbine 860 hp. unit, **$31,004;** Schedule 7, turbines and governors, 9,400 hp. units at 277 r.p.m. **$249,534;** Schedule 8, turbines, 9,400 hp. units at 277 r.p.m., **$210,705*****from Woodward Governor Co., 5001 N. 2 St., Rockford, Ill., Schedule 5, governors, 9,400 hp. units, **$38,849;** Schedule 6, governor, 860 hp. unit, **$450,840,** all above for Philpott Reservoir, Smith River. Eng-44-110-49-160.

CONTRACTS AWARDED

Calif., San Rafael—Marin Canalways & Development Co., 910 4 St., 4,000 ft. levee to provide site for future 15,000,000 industrial

and recreational proj., to Associated Dredging Co., Industrial Rd., Pittsburg. Approx. **$100,000.** Leonard S. Mosias, 255 California St., San Francisco, archt.

†Idaho—U. S. Eng., P. O. Box 346, Lewiston, levee, dumped stone revetment, appurtenances along south fork Clearwater River, Serial No. Eng 45-164-49-71, to J. A. Terteling & Sons, 4011 Fairview Ave., Boise, **$58,006.** Est. $108,800. Bids 4/18.

†Idaho—U. S. Eng., 19 E. Poplar St., Walla Walla, Wash., levee and revetment, South Fork, Clearwater River, Stites, to Stoen's Rock & Landscape Co., 8410 Aurora Ave., Seattle, Wash., **$28,010.** Bids 4/19.

†Idaho—U. S. Eng., 19 E. Poplar St., Walla Walla, Wash., Youngstrom location, flood control, Upper Snake River, Deer Park-Menan Area, day labor, no bids received Apr. 14; Ole Hanson location, flood control, Upper Snake River, day labor, bids Apr. 15, rejected. **$65,000.**

●†Pennsylvania—U. S. Eng., 925 New Federal Bldg., Pittsburgh, Conemaugh Flood Control Dam, Eng-36-058-49-99, to Savin Constr. Co., 10 Village St., East Hartford, Conn., **$8,736,028.** Est. $9,000,000. Bids 4/7. CD 4/13—ENR 4/21, under LB.

●†South Dakota—U. S. Eng., 1709 Jackson St., Omaha, Neb., furnishing, installing hydraulic turbines, Fort Randall Reservoir, Eng-25-066-49-172, to The Baldwin Locomotive Works, Eddystone, Pa., **$2,626,000.** Bids 3/8. CD 3/14—ENR 3/17, under LB.

●†Washington—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., North Coulee Dam, Feeder canal, relocation U. S. Construction railroad and construct access road to Electric City Yard, Columbia Basin Proj., Spec. 2586, to J. A. Terteling & Sons, Inc., 4011 Fairview Ave., Boise, Idaho, **$4,718,726.** Bids 4/1. CD 4/7—ENR 4/14, under LB.

AIRPORTS AND AIRBASES

BIDS ASKED

May 10

Mich., Lansing—AIRPORT IMPRVS.—Michigan Dpt. Aeronautics, at office Gogebic Rd. Comn., Bessemer, clearing, asphalt paving, grubbing, drainage, electrical duct at airport, near Ironwood. Plans deposit $5. CD 9/12/47—ENR 10/2/47.

May 12

●†Md., Andrews Field (Wash., 20, D. C., P. O.)—HOUSING—U. S. Eng., 1 and Douglas Sts. N. W. Wash. 25, D. C., housing, $1,000,000-$2,000,000.

Minn., Minneapolis—AIRPORT IMPRVS.—Minneapolis St. Paul Metropolitan Airports Comn., R. Aldrich, exec. dir., 2429 University Ave., St. Paul. Schedule III, 1,200,000 cu. yd. excav., 28,000 lin. ft., 12- to 60- in. storm sewers 115 manholes and catch basins, 1,500 sq. yd. riprap, 170 lin. ft. tunnel under runway. Schedule IV, 4 electrical manholes, 2 transformers 650 lin. ft. ducts, conduits, 1,500 lin. ft. primary cable, 1,500 lin. ft. weatherproof cable. Over $50,000. Plans deposit $25. Toltz, King & Day, 1569 Pioneer Bldg., St. Paul, engrs. CD 1/4/45—ENR 1/21/45.

†O., Mansfield—AIRPORT—U. S. Eng., 830 West Broadway, Louisville 3, Ky., construct Air National Guard Facilities, aircraft parking apron, roads and utilities, Mansfield Municipal Airport, Serial No. Eng-15-029-49-126. Plans deposit $15.

May 15

Pa., Selinsgrove—AIRPORT—F. D. Kessler, Northumberland, construct Penn Valley Airport, $75,000. Michael J. Baker, Jr., Rochester, engr.

On or About May 16

†Ala., Birmingham—AIRPORT IMPRVS.—U. S. Eng., P. O. Box 1169, Mobile, 7, Ala., construction, repairs Air National Guard Facilities at Birmingham Municipal Airport. CD 8/25/47—ENR 9/4/47.

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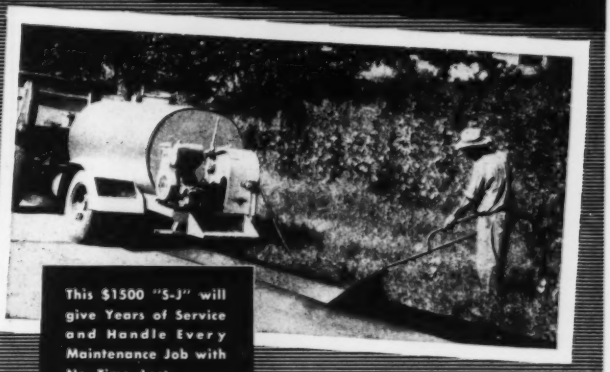

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Bids Asked

Ind., South Bend—AIRPORT IMPRVS.—St. Joseph Co., County Court House, South Bend, b. conc. paving, storm drains, parking lot, electric equip. $375,000. Plans deposit $25. Clyde Williams, 312 Colfax Ave., engr. CD 12/26/44 —ENR 1/11/45.

FOREIGN

Egypt—Ministry Pub. Wks. Hydro-Electric Power Comn., 10 Mamal El Sokker St., Garden City, Cairo, receiving bids after April 30, for supply, erection and maintenance civil engineering and building works incl. excavation in construction of hydro-electric power station at Aswan Dam. CD 11/5—ENR 11/11.

PUBLIC BUILDINGS

BIDS ASKED

May 9

Conn., Middletown—City, Charles A. Schaeffer, chn. Bldg. Comn., Middletown, 1 story, bsmnt., U-shaped, brick, steel, concrete school, Westfield St. $250,000. Sebastain J. Passanesi, 164 Court St., archt. CD 8/18/48—ENR 9/2/48.

N. Y., Wyandanch—Bd. Educ., Union Free School Dist. 9, Wyandanch, school addn. $285,000. Extended date. CD 4/26—ENR 4/28.

May 10

Del., Seaford—Municipal Building Com., City Hall, 2 story, 87x90 ft., fireproof municipal bldg. 32 ft. high. Plans deposit $30.

Ga., Covington — Newton Co. Bd. Educ., Covington, high school. Plans deposit $25. Gregson & Ellis, Mortgage Guarantee Bldg., Atlanta, archts. CD 12/1/47—ENR 12/11/48.

Ind., Indianapolis — Bd. Sanitary Comrs., O. F. Barry chn., City Hall, 1 story garage and shops, 2700 S. Belmont St. $275,000. M. G. Johnson, city engr. CD 4/5—ENR 4/28.

†N. J., Dover—U. S. Eng., 120 Wall St., New York Zone 5, centrifugal test machine bldg. at Picatinny Arsenal.

N. Y., New York—New York City Housing Auth., 63 Park Row, Zone 7, foundations and general construction, heating and ventilating, electrical work and plumbing for Lexington Houses, Proj. No. NYC-21, in area bounded by E. 98 St., 3 Ave., E. 99 St. and Park Ave. Plans deposit $75.

O., Macedonia—George B. Sowers, dir. P. Wks., Ohio Dpts. Bldg., Columbus, Cottage 12, Hawthornden State Hospital; H. G. Allen, 705 Ohio Dpts. Bldg., Columbus, consult. archt. Div. State Arch. and Engineer.

Pa., Ardmore—Lower Merion Twp. School Dist., Montgomery Ave. and Church St., school at Penn Wynne. $300,000. George Wharton Pepper, Jr., Lewis Tower Bldg., Phila., archt.

Ont., Toronto—Page & Steele, archts., 72 St. Clair Ave. W., 2 story, 127x142 ft., concrete, steel, brick school, Hollywood Ave., near Bayview Ave., for North York Twp. School Area 1, H. M. Brounlee, bus. admin. Approx. $250,000. Plans deposit $50.

May 11

Kan., Chanute—Neosho Co., Chanute, 1 story, part bsmnt., 188 x 192 ft., concrete, steel hospital. $400,000. Thomas W. Williamson & Co., National Bank of Topeka, Topeka, archts. CD 4/8—ENR 4/28.

N. Y., New York—New York City Housing Auth., 63 Park Row, Zone 7, foundations and general constr.; heating and ventilating; electrical work and plumbing for Colonial Park Houses, Proj. No. NYC-6 in area bounded by Harlem River Dr., Polo Grounds, Harlem River Driveway. Plans deposit $75. Extended date. CD 4/19—ENR 4/21.

Wis., Milwaukee—Housing Auth. of Milwaukee, 844 N. Market St., Zone 2, 392 unit Berryland, Veterans Permanent Housing. Plans deposit $50. George G. Schneider, Ralph E. Schiefer, Fred Schweitzer, Fritz von Grossman & W. Trapp, 749 N. Milwaukee St., Zone 2, assoc archts. CD 12/15—ENR 1/7/48.

May 12

O., Akron—University of Akron, M. P. Boggs, secy., E. Buchtel Ave., chemistry bldg. Plans deposit $15. Allied Akron Architects, 31 N. Summit St., archts. CD 10/9/46—ENR 11/14/46.

Ore., Park Rose—School Dist. 3, Park Rose, rein.-con. high school, $592,000. Annand & Kennedy, Central Bldg., Portland, archts.

About May 13

†Tex., Fort Bliss—U. S. Eng., P. O. Box 1538, Albuquerque, N. M., approx. 48 frame, stucco single type family quarters, Serial No. Eng-29-005-49-82. CD 8/12—ENR 9/2.

May 13

N. Y., Jamaica—Bd. Transportation, 250 Hudson St., New York, Zone 13, construct building fdns. for Jamaica Bus Garage, South Rd. east of 164 St.

About May 15

†N. M., Albuquerque—U. S. Eng., P. O. Box 1538, 518-seat theater (EOP-937A), Sandia Base, Serial No. Eng-29-005-49-84.

About May 16

†N. M., Albuquerque — U. S. Eng., P. O. Box 1538, 2 wood frame approx. 40 ft. high towers; approx. 11x21 ft. brick masonry equip. bldg., School of Mines, Serial No. 291-49-96.

May 16

O., Struthers—Bd. Educ., Roy Birch, pres., Struthers, modernization and building program, Struthers Memorial Gymnasium, Unit A; modernizing high school, Unit B; Sexton Street School gymnasium, Unit H. Plans deposit $25 each for A and B, $15 for H. Randall Medicus, 314 Federal St., Youngstown, archt. CD 3/18—ENR 3/24.

Ont., Des Joachims—Hydro Electric Power Comn., 620 University Ave., Toronto, 23 dwellings, 16 garages, Des Joachims Development, Ottawa River. Plans deposit $25.

Ont., Eatonville—Shore & Moffat, archts., 79 Queen St. E., Toronto, 1 story, brick, stone school for S. S. No. 2, T. Gaudie, secy., Eatonville. Approx. $300,000. Plans deposit $50.

May 17

Calif., Arcata — State Div. Architecture, P. Wks. Bldg., Sacramento, rein.-con. industrial arts bldg. at Humboldt State College. Plans deposit $25. Anson Boyd, state archt.

Calif., Fresno—Fresno Co., Courthouse, psychiatric wards at County Hospital. Approx. $250,000. Plans deposit $50. David H. Horn & M. D. Mortland, 1244 O St., archt. CD 10/28/47—ENR 11/6/47.

Calif., San Francisco — State Div. Architecture, P. Wks. Bldg., Sacramento, 1 story, bsmnt., rein.-con. power house, shops and physical education facilities bldg. (gymnasium and swimming pool) at San Francisco State College Campus. Plans deposit $25. Anson Boyd, state archt. CD 2/21/46—ENR 4/16/46.

†Md., Edgewood—U. S. Eng., First and Douglas Sts. N. W., Wash., 25, D. C., radiological laboratory alterations, addns., at Army Chemical Center, Serial No. Eng., 49-080-49-146 (35)M.

†N. M., Aubuquerque—U. S. Eng., P. O. Box 1538, 518-seat theater, Sandia Base EOP-937A, Serial No. Eng-29-005-49-84. CD 4/14—ENR 4/21.

N. Y., Fulton—Bd. Educ., 4 St. school, $700,000. Carl C. Ade, 31 Gibbs St., Rochester, archt.

May 18

Ala., Tuscaloosa—University of Alabama, Tuscaloosa, science bldg. $250,000. Extended date. Miller Martin & Lewis, Title Guarantee Bldg., Birmingham, archts. CD 3/30—ENR 4/14.

Ala., Tuscaloosa—University of Alabama, Tuscaloosa, physics bldg. Extended date. Miller, Martin & Lewis, Title Guarantee Bldg., Birmingham, archts. CD 4/18—ENR 4/21.

N. Y., Binghamton—Bd. Educ., City Hall, Coolidge Grade School. $400,000. Walter P. Bowen, Capitol Theatre Bldg., archt. CD 5/27/47—ENR 6/12/47.

●N. Y., Cortland—New York State Dormitory Auth., 93 State St., Albany, residences halls and faculty bldg. $1,400,000. Plans deposit $100. Carl W. Clark, 625 James St., Syracuse, archt. CD 12/26/46—ENR 1/9/47.

†Va., Norfolk—Pub. Wks. Office, Fifth Naval Dist., U. S. Naval Base, Zone 11, operations, administration and plot bldg. at U. S. Naval Base (Cinclant Headquarters), Spec. 22140. Plans deposit $10.

●Que., Three Rivers—J. M. Somerville, secy c/o Dpt. P.-Wks., Hunter Bldg., Ottawa, Ont., 6sx134 ft., rein.-con. brick Public Bldg. addn., alterations concrete fdn. Approx. $1,000,000. Plans deposit $200. G. Brault, c/o owner, and J. L. Caron, 302 Bonaventure St., archts. J. M. E. Guay, 1010 St. Catherine St. W., Montreal, engr. CD 9/21—ENR 10/14.

May 19

Calif., Sunnyvale—Sunnyvale School Dist., 270 West McKinley Ave., 2nd unit rein.-con. school, approx. $250,000. Plans deposit $40. Donald Powers Smith, 583 Market St., San Francisco, archt. and Isadore Thompson, 583 Market St., San Francisco, engr. CD 12/12/47 —ENR 12/25/47.

May 20

Tex., Longview—Gregg Memorial Hospital, Longview, 40 room hospital addn. $689,400. Extended date. Wilson, Morris & Crain, 3212 Smith St., Houston and Staub & Rather, 500 Stuart St. Houston, consult. archt. W. P. Moore, 4605 Montrose St., Houston, engr. CD 4/6—ENR 4/21.

May 24

●N. J., Trenton—State Hy. Dpt., State House Annex, state hy. dpt. office bldg. $1,500,000. Mucklewright & Montford, 72 Ewing St., archts. CD 3/30—ENR 4/28.

May 31

Idaho, Moscow—University of Idaho, Moscow, 3 story, masonry addn. and addn. of third floor on 2 story structure, $500,000. Hugh Richardson, Lewiston, archt. CD 4/18/47—ENR 5/1/47.

On or About June 1

●Ark., West Memphis—Crittenden Co., West Memphis, erecting county hospital. **$1,000,000.**

August 16

●†Mo. Kansas City—Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash., 25, D. C., veterans admin. general medical hospital. $8,000,000-$12,000,000. CD 4/19/48 — ENR 4/22/48.

LOW BIDDERS

●Calif., Camarillo—State Div. Architecture, P. Wks. Bldg., Sacramento, Apr. 26, general contract 2 story, rein.-con. hospital bldgs., at Camarillo State Hospital, incl. 216,000 sq. ft. floor area receiving and treatment unit; 28,000 sq. ft. administration unit and 27,000 sq. ft. bakery and commissary unit, from Williams & Burrows, Inc., & Carl N. Swenson Co., 10 California Dr., Burlingame, **$2,570,715*****heating and ventilating, from Hickman Bros., Inc., 803 Mira Flores Ave., San Pedro, **$228,938*****plumbing, from E. Willardson, Inc., 2880 Rowena Ave., Los Angeles, **$287,780.** CD 3/21—ENR 3/24.

Calif., Stockton—State Div. Architecture, P. Wks. Bldg., Sacramento, Apr. 26, 1 and 2 story, 47,000 sq. ft. rein.-con. female patients ward, 1 story bsmnt., 50x135 ft., concrete warehouse, 60x144 ft., metal covered garage at Stockton State Hospital, from Nomellini Constr. Co., Box 542, **$742,000.** CD 4/4—ENR 4/14.

Colo., Ft. Morgan—School Dist. 3, Ft. Morgan, Apr. 15, general contract Junior-Senior High School addn., from Berglund-Cherne Constr., 364 Rudora St., Denver, **$378,099.**

Fla., Gainesville—State Bd. Control, c/o Guy C. Fulton, archt., 204 Peabody Hall, Apr. 22, Unit C girls dormitory at University of Florida, from C. A. Fielland, 107 N. Rome Ave., Tampa, **$505,925.** CD 4/8—ENR 4/14.

N. Y., New York—Supt. School Buildings, Design & Constr., 49 Flatbush Ave. Extension, Brooklyn, Zone 1, general contract P.S. 81 addn., Riverdale Ave. between W. 255 and W. 256 Sts., from Maran Constr. Co., Inc., 1910 Arthur Ave., Zone 57, **$807,000.** CD 4/4—ENR 4/7.

N. Y., St. Johnsville—Bd. Educ., Central School Dist. 1, St. Johnsville, Apr. 20, school, from C. J. Burgess Constr. Co., Canajoharie, **$119,714.** CD 4/11—ENR 4/14.

N. D., Fargo—State of North Dakota, Bismarck, Apr. 8, general contract library at North Dakota State Agricultural College, from Meinecke-Johnson Co., Fargo, **$300,025.** CD 3/23—ENR 3/31.

Ore., Albany—Albany School Dist. 5, Albany, 3 schools, from Ken Ward Constr. Co., 5120 S. E. Milwaukie St., Portland, **$571,625.** Bids 2/21 rejected. Bids 2/7—ENR 2/19.

●†Ore., Portland — Federal Reserve Bank of San Francisco, U. S. Bank Bldg., Apr. 28, 4 story, bsmnt., sub-bsmnt., steel office, from Ross B. Hammond, 1241 N. Williams St., **$1,761,300.** CD 4/11—ENR 4/14.

Pa., Norristown — Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, Apr. 20, general contract refrigeration and bakery bldg. at Norristown State Hospital, from Henry M. Taggart, Inc., 1924 Chestnut St., Phila., **$268,-200.** CD 3/22—ENR 3/24.

Tenn., Lawreneburg—Lawrence Co., Apr. 18, hospital, from Daniel Constr. Co., 822 7 Ave. S., Birmingham, Ala., **$258,320.** CD 4/4—ENR 4/7.

Va., Winchester—Frederick Co., Winchester, Apr. 26, James Wood High School, near here, from English Constr. Co., Altavista **$877,882.** CD 4/12.

Wis., La Crosse—Bd. Educ., La Crosse, Apr. 4, general contract 2 story, bsmnt., 74x293 ft. Jefferson School, from W. M. C., Inc., 264 W. 7 St., Winona, Minn., **$398,750.** CD 3/16—ENR 3/24.

Wyo., Torrington—Goshen County Hospital, Torrington, Apr. 14, 1 story, bsmnt., 145x234 ft., brick, concrete, glass block hospital, from Spiegelberg Lumber & Bldg., 259 W. Fremont St., Laramie, **$303,703.** CD 3/14—ENR 3/17.

●Alaska, Anchorage—Alaska Native Service, Dpt. Interior, C St. between 18 and 19 Sts. N. W., Wash., D. C., Apr. 26, 5 story, 42x390 ft. and 42x278 ft., rein.-con. hospital, 1 story, 48x202 ft. administration bldg.; 3 story 35x240 ft. nurses' home and three 3 story, 40x194 ft. apartments, from Morrison-Knudsen Co.-J. C. Boesplug Constr. Co. and Peter Kiewit Sons Co., Henry Bldg., Seattle 4, Wash., **$1,509,254.** CD 3/4—ENR 3/10.

●Alaska, Fort Richardson—U. S. Eng., APO 942, c/o P.M., Seattle, Wash., Apr. 6, rein.-con., masonry telephone exchange bldg., Eng-95-507-49-11, from C. William Hufersen, Anchorage, **$267,088.** Est. $197,532. Bids 4/6.

CONTRACTS AWARDED

Conn., Rocky Hill — State, Raymond S. Thatcher, comptroller, State Capitol, Hartford, 3 story, brick, concrete dormitory at U. S. Veterans Adm. Hospital, from Constr. Co., 11 Asylum St., Hartford. Approx. **$250,000.** Bids 3/23. CD 3/8—ENR 3/10.

Conn., Storrs—State, Raymond S. Thatcher, comptroller, State Capitol Bldg., Hartford, precast concrete Elizabeth Hicks and Grange Hall Dormitories, University of Connecticut, to Gilbane Constr. Co., 90 Calverly St., Providence, R. I. **$456,000.** Est. $400,000. CD 3/23—ENR 3/31.

Idaho, Weiser — City of Weiser and Washington Co., hospital, to J. H. Wise & Co., 424 Broadway, Boise, **$372,920.** Bids 4/18. CD 4/11.

Ill., Chicago—Bd. Educ., 228 N. LaSalle St., school, 245 W. 57 St., to Harvey A. Hanson, 1851 Elston Ave., **$420,000.** Awarded 4/12. J. C. Christensen, 228 N. LaSalle St., archt. CD 3/28/45—ENR 4/19/45.

Ia., Ames—City, City Hall, power plant, imprvs., Contrs. 16 and 17, furnishing ornamental steel and iron and construction same, to Interstate Constr. Co., 3621 Troost St., Kansas City, Mo., **$800,000.** Bids 4/4. (**Correction**—contractor's address). CD 4/20—ENR 4/28, under CA.

Ia., Maquoketa—City, City Hall, power plant alterations, diesel oil engine, to Fulton Iron Wks. Co., 1259 Delaware St., St. Louis, Mo., **$139,600.** Est. $200,000. Awarded 4/15. J. G. Thorne, Maquoketa, engr.

Minn., Hastings—State Dpt. Admin., State Capitol, St. Paul, general contract administration unit, receiving unit State Hospital, to Steenberg Constr. Co., W. First National Bank Bldg., St. Paul, **$616,695.** Bid 2/25. CD 3/2—ENR 3/10.

Minn., St. Louis Park—Bd. Educ., C. D. Sparks, clk., general contract 1 and 2 story, 198x325 ft. L shaped school to Peterson Constr. Co., 620 National Bldg., Minneapolis, **$317,000.** Bids 4/12. CD 3/23—ENR 3/31.

●**N. Y., Dongan Hills**—New York City Housing Auth., 63 Park Row, New York, Zone 7, general contract General Charles W. Berry Houses, Proj. NYC-19 in area bounded by Richmond Rd., Dongan Hills Ave., Staten Island Ry. and proposed street (Seaver Ave.) 200 ft. north of and parallel with Stobe Ave., to Caye Constr. Co., 356 Fulton St., Brooklyn, Zone 1, **$3,046,000.** Bids 4/5. CD 3/31—ENR 4/7, under LB.

●**N. Y., Long Island City**—New York City Housing Auth., 63 Park Row, New York, Zone 7, foundations for Ravenswood Houses, Sect. 1, Proj. NYC-20, to Foss-Halloran-Norr, Inc., 79-28, 41 Ave. **$1,314,000.** Bids 3/29. CD 3/31—ENR 4/7, under LB.

Tex., Houston—River Oaks Corp., 1719 Sunset Blvd., shopping center near Lamar High School, to Wm. G. Farrington, 1719 Sunset Blvd. Approx. **$300,000.** CD 4/8.

Tex., Huntsville—State Bd. Control, State Capitol Bldg., Austin, bachelor quarters and 70 duplexes for prison farm admin. personnel, owner builds, **$396,000;** shallow water supply wells, force account, **$45,000.** CD 3/8/48—ENR 3/18/48.

●**Wis., Madison** — Bd. Regents University of Wisconsin, Madison, general contract dairy bldg., to J. H. Findorff & Son, Inc., 601 W. Wilson St., **$1,243,421.** Bids 2/8. CD 2/15—ENR 2/17, under LB.

Que., Montreal — Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., supplying, erecting steel for 6 story, 125-360 ft., concrete, brick West Side Postal Terminal Bldg., alterations, addns., concrete fdn., to Dominion Bridge Co. Ltd., Lachine. Approx. **$538,000.** Bids 4/13. CD 3/29—ENR 3/31.

COMMERCIAL BUILDINGS

BIDS ASKED

May 10

O., Columbus—Bd. Trustees, The Doctors Hospital, 1087 Dennison Ave., 3 story, bsmnt. 92 addnl. bed hospital. $400,000. Dan A. Carmichael, 5 E. Long St., archt. CD 3/16—ENR 3/31.

●**Pa., Danville**—George F. Geisinger Memorial Hospital, Danville, hospital addn. $1,000,000. Thomas F. Ellerbe, 1st Natl. Bank Bldg., St. Paul, Minn., archt. CD 4/27—ENR 5/5.

May 14

Que., Quebec City—M. Bouchard & P. Rinfret, archts., 400 Blvd. Charest, 2 story, bsmnt., 138x295 ft., rein.-con., office for Industrial Life Insurance Co., 319 Blvd. Charest, Approx. $500,000. CD 4/26—ENR 5/19

About May 15

Va., Norfolk—Lerner Shops, c/o Paul D. Woodward, archt., 616 Boush St., clothing store addn., alterations. $250,000.

About September 15

●**Ill., Jacksonville**—Passavant Hospital Assn., Jacksonville, 140-bed brick, stone, general hospital, $2,100,000. Edward Martin, 540 N. Michigan Ave., Chicago, archt.

About October 1

●**O., Akron**—St. Paul's Episcopal Church, Dr. W. F. Tunks, rector, 354 E. Market St., church, W. Market St. and Kenilworth Dr. $1,000,000. Cram & Ferguson, 248 Boylston St., Boston, Mass., archts. CD 10/4/48—ENR 10/21/48.

Bids Asked

●**Tex., Houston** — Plumb-Mitchell, Inc., 4550 Griggs Rd., 200 unit rental apartment. $1,800,000. Joseph B. Reynolds, 3401 S. Shepherd St., archt. CD 4/28.

SOON LETS CONTRACT

Ala., Mobile—Veterans Co-operative Home Bldg. Co. Assn., Inc., 1559 Beach St., soon lets contract (a) 96 rental houses and (b) grading and utilities, $750,000. Luquire Engineering Co., 253 S. Francis St., engr. CD 4/8—ENR 4/14.

Ill., Chicago—Chatham Park, Inc., c/o Shaw, Metz & Dolio, archts., 208 S. LaSalle St., soon lets contract nineteen 3 story, brick Chatham Grove Apartments, seven 3 story brick Chatham Park addnl. apartments.

Md., Baltimore — Hebrew Congregation of Baltimore, Park Heights and Charlesworth Aves., soon lets contract 1 and 2 story, bsmnt., 140x161 ft., brick, rein.-con. steel temple and school. Hall, Border & Donaldson, 2111 N. Charles St., archts.

Mo., Normandy (St. Louis, Zone 21, P. O.)—St. Ann's Catholic Parish, Rev. Frederick J. Sprenke, pastor, 3615 Oakmount Dr., soon lets contract 1 and 2 story, stone, rein.-con. church, rectory, 7500 block Natural Bridge Rd. $300,000. Joseph D. Murphy, 4746 McPherson Ave., St. Louis, Zone 8, archt. CD 6/25/47—ENR 7/10/47.

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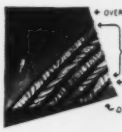

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N. J., Hightstown — Reddied Sch. & Memorial Hall Hightstown, soon lets contract gymnasium. Approx. $250,000 Trautwein & Howard, 1411 Walnut St., Phila., Pa., archts. CD 12/9—ENR 12/16. under LB.

●**N. M., Albuquerque**—Loveiace Foundation for Medical Research, Albuquerque, soon lets contract clinic. $1,000,000 John Gaw Meem, Hugo Zehner & Assoc., P. O. Box 628, Santa Fe, archts. CD 4/25

S. C., Greenville—Fidelity Federal Savings & Loan Assn., Greenville, soon lets contract 6 story office. Wm. R. Ward, Franklin Natl. Life Bldg., Greenville, archt. CD 11/19—ENR 11/25, under LB.

Tex., Houston—Michael DeGeorge, Casper M. DeGeorge Estate, Ambassador Hotel, 919 Fannin St., soon lets contract 3 story part bamnt., 95 x 100 ft., masonry, steel concrete Negro Hotel, air-conditioning, $300,000. Garrison King 4615 Fannin St. archt. CD 2/25—ENR 3/10.

LOW BIDDERS

Ark., Blytheville — First Baptist Church, Blytheville, Apr. 8, church, from Ben White & Sons, Blytheville, $275,550. CD 3/2—ENR 3/10.

Miss., Jackson—First Christian Church, c/o low bidder, Apr. 14, church, from Kinc-North Constr. Co., 615 Court St., Jackson, $287,700. CD 3/30—ENR 4/7.

Miss., Jackson—First Christian Church, 408 N. President St., rejected bids Apr. 14, church, L. B. $257,700. CD 4/21—ENR 4/28, under LB.

Mo., Fulton—Westminster College, Dr. Wm. Hall, pres., Fulton, dormitory, from Ed. H. Huehn, 522 W. McCarty St., Jefferson City, $871,218. Wedemeyer & Hecker, 111 N. 4 St., St. Louis, archts. CD 7/30—ENR 8/19.

Neb., Grand Island—The Sisters of St. Francis Hospital, Grand Island, Apr. 22, nurses home, from Geer-Mauer, 315 N. Oak St., Grand Island, $573,280. Est. $500,000. CD 4/5—ENR 4/14.

Tex., San Antonio—Texas National Hotel Assn., c/o W. L. Moody, Jr., 2028 Market St., Galveston, 125 room, 4 story stone, steel Menger Hotel Addn., air-conditioning, etc., from Hill & Combs, 321 Melrose Pl., $835,730. Bids 4/22 CD 1/14—ENR 2/3.

CONTRACTS AWARDED

Ala., Birmingham—Inglenook Apartments, Inc., c/o Earl O. Murray, archt., Clark Bldg., 40 apartment units, Owner builds, Approx. $250,000.

Ala., Jasper — First Baptist Church, c/o Charles H. McCauley, Jackson Bldg., Birmingham, church, Owner builds, $250,000. CD 3/4 ENR— 3/17.

●**Ala., Montgomery**—Hilltop Arms, c/o contractor, 8 story apartment, to Algernon Blair, First National Bank Bldg., Approx. $1,000,000

●**Calif., Avalon**—Biltmore Homes, Inc., 6305 Orange Ave., Long Beach, 222 dwellings Avalon Gardens, Owner builds, Approx. $1,000,000.

Calif., Baldwin Park—Country Homes, Inc., 111 E. Live Oak Dr., Arcadia, 109 stucco dwellings on scattered lots, Olive, Brookpott Denham, and Benwood Sts., to H. N. Berger, 111 E. Live Oak Dr., Arcadia, $577,700.

●**Calif., Los Angeles**—University of Southern California, 3551 University Ave., 4 story, rein.-con. College of Letters Arts and Sciences bldg., to J. A. McNeil Co., Inc., 712 W. Olympic Blvd., $880,490. Bids 4/14, awarded 4/19. CD 4/21—ENR 4/28, under LB.

Calif., Norwalk—Norwalk Gardens, Inc., 1515 Center St., 96 stucco dwellings on scattered lots, Excelsior Dr., Harvest and Grasstone Aves., Gridley Rd., Highdale and Ferina Sts. Owner builds. $652,800.

●**Calif., Santa Ana** — Buffums Department Store, Pine and Broadway Sts., Long Beach, 1 story, bsmnt., 66,000 sq. ft. rein.-con. department store, to Allison Honor, Santa Ana, $1,000,000. Bids 2/8, awarded 4/22. CD 1/25—ENR 1/27.

●**Colo., Lakewood**—E. E. Price & Assoc., 410 Security Bldg., Denver, Apr. 18, 45,000 sq. ft. shopping center and theatre, to Continental Constr. Co., Denver National Bank Bldg., Denver. Approx. **$1,500,000.** Bids 4/18, awarded 4/20. CD 4/8—ENR 4/14.

Conn., Stamford—P. A. Russo & Son, Glenbrook Rd., thrity-five 1½ story, 24x28 ft. 4 room houses. Barmore Drive East. Owner builds. **$280,000.**

Conn., Thompsonville—St. Patrick's Roman Catholic Parish, W. P. Kilcoyne, pastor, 3 story basmt., brick, stone church. Pearl and High Sts. to R. G. Bent Co., 93 Edwards St., Hartford. **$480,000.** CD 3/3—ENR 3/17.

Conn., Windsor—Anderson Fair Oaks, 141 S. Marshall St., Hartford, sixty 1½ story 26x32 ft. frame houses, Wolcott Ave, Owner builds, **$720,000.** CD 4/27.

Conn., Windsor—Arthur G. Woods, 1098 Matianuck Ave., 65 single frame houses, Deerfield Sect., **$670,000;** 30 frame unit houses, Plymouth St. and Park Ave. **$300,000.** Owner builds. CD 4/27.

Fla., Miami—Stewart Page Co. of Florida, 4290 S. W. 11 St., several residential developments. Owner builds. Approx. **$250,000.**

Fla., Miami—Sweet Corp., c/o contractor. apartment development, to Elson Home Builders, 1100 S. W. 2 Ave. Approx. **$250,000.**

●**Fla., Sarasota**—Franklin Brothers, 1517 Dixie Hy., Louisville, Ky., 102 one and 2 story, concrete block cottage type apartments, to be known as Franklin Manor Apartments. Owner builds. Approx. **$1,000,000.** Hector Pelletier, Bradenton, and Louis & Henry, Starks Bldg., Louisville, archts. W. H. Tyler, Sarasota, engr.

Ga., Atlanta—Argonne Manor, Inc., c/o contractor, 45 apartment units, Argonne Ave., to Modernization Constr. Co., 305 Techwood Dr. N. W. Approx. **$270,000.**

Ga., Atlanta — Goldsboro Apartments, Inc., c/o contractor, 44 apartment units Euclid Ave. to J. R. Bryan, 770 Columbia Dr., Decatur. Approx. **$350,000.**

Ga., Atlanta—Ernest St. John Mann Webb & Knapp Inc., c/o contractor, department store, to De Give, Dunham & O'Neill, Grand Bldg., Atlanta Approx. **$300,000.** Bids 4/18. CD 4/14—ENR 4/21

●**Ga., Atlanta**—Pooles Creek Apartments, Inc., c/o contractor, 200 apartment units, to Algernon Blair 806 Henry Grady Bldg., **$1,250,000.**

Ga., East Point—Cherly Drive Apartments, Inc., c/o contractor, 60 apartments units, to Fred L. King, 704 Jefferson Ave., East Point, Approx. **$375,000.**

Ga., Macon—Vineville Methodist Church, c/o contractor, educational bldg., to Stilwell Constr. Co., Bankers Insurance Bldg., **$256,-000.** CD 1/4.

●**Ill., Centralia**—Illinois Bell Telephone Co. 212 W. Washington St., Chicago 2 story, bsmnt., 100x100 ft. rein.-conc., brick, steel telephone exchange, to Dickey & Sons Constr. Co., Centralia. Approx **$500,000;** dial sys., to Western Electric Co., 4240 Duncan Ave. St Louis Zone 10. Mo. approx **$750,000.**

Ill., Chicago—Lane Bryant, Inc., 101 N. Wabash St., remodel store, to Johnson Constr. Co., 134 N. LaSalle St Approx. **$300,000.** CD 1/14—ENR 1/20

Ill., Chicago—St. Angelas Church, 5758 W Potomac St., steel, etc. church, to Henry Bros., 228 N. LaSalle St. Awarded 4/12. McCarthy & Smith, 69 W. Delaware Pl., archts.

Ill., Chicago—Samuels Constr. Co., 77 W. Washington St., 5 story, bsmnt., brick, concrete apartment, 4920 Marine Dr., to Carl E. Erickson & Co., 4657 N. Ravenswood St., **$500,000,** Awarded 4/12. Frank McNally & Assoc., 105 W Madison St., engrs.

Ill., Stickney—Percy J. Wills, 7737 S. Racine St., 44 residences, 77 and Laramie Sts. Owner builds, **$250,000.**

●**Kan., Atchison**—F. P. Gehring, Maplewood Heights, 200 dwellings. Owner builds. **$1,500,-000.**

Ky., Louisville — Consolidated Enterprises, Inc., 305 S. 6 St., several residential developments. Owner builds, Approx. **$250,000.**

La., Shreveport—First Baptist Church, 517 Travis St., educational bldg., to J. A. Jones Constr. Co., Box 2162, Charlotte, N. C. Approx. **$700,000.** Bids 4/18, awarded 4/19. CD 4/25—ENR 4/28, under LB.

Md., Baltimore—T. J. Guidare & Son, 365 Evesham Ave., stores, supermarket, parking area, separate contracts, **$250,000.** CD 12/22/47—ENR 1/1/48.

Md., Towson—Goucher College, Melrose Ave., 32x51x148 ft., 36x48x48 ft., 16x34x34 ft., 16x30x48 ft. and 16x35x49 ft. masonry Van Meter Hall, to Harry A. Hudgins Co., 15 E. 21 St., Baltimore. Awarded 4/19. CD 9/18/44—ENR 10/5/44.

Miss., Natchez—Shelby Constr. Co. Inc., 4320 Paris Ave. New Orleans, La., residential development. Owner builds. Approx. **$300,000.**

N. J., Longport—Parrotto Enterprises, Inc., 184 S. Virginia Ave., Atlantic City, residential development, Woodside Ave., separate contracts. **$250,000.** D. W. R. Haining, 2311 Boardwalk, Atlantic City, archt.

N. Y., Beechhurst—Allied Beechhurst Corp., c/o Oscar S. Silverstone, archt., 153 Pierrepont St., Brooklyn, Zone 2, 35 one family houses, 19 Ave. E. 163 St., 166 St and Willets Pt. Blvd. Owner builds. **$308,000.**

N. Y., Flushing—Northwest Gardens Corp., c/o Sohn & Weston, archts., 44 Court St., Brooklyn, Zone 2, 36 houses 77 Ave. and 153 St. Owner builds, **$338,000.**

●**N. Y., Levittown**—Samuel Leider, c/o Soloway & Schulman, archts., 4 Court Sq., Brooklyn, Zone 2, shopping center and parking space on 11½ acre tract, Hempstead-Bethpage Turnpike and Jerusaleum Rd. Owner builds, **$2,000,000.**

●**O., Cuyahoga Falls** — Heslop Building & Realty Co., 533 W. Market St., Akron housing, comprising 1 story, 23x32 ft. homes without bsmnt., on 35 acre tract adjacent to East school on Talmadge Ave. Owner builds. **$1,-500,000.**

Okla., Oklahoma City—Oklahoma Medical Research Foundation, Commerce Exchange Bldg., medical research foundation bldg., at N. E. 13 and Land Sts., to J. J. Bollinger Constr. Braniff Bldg., **$790,350.** Bids 4/19. CD 3/31—ENR 4/7.

Okla., Oklahoma City—Skirvin Tower Hotel, Oklahoma City, Zone 2, remodel 3 top floors of hotel for office use to House & Anderson, 1627 W. Main St., **$300,000.** Awarded 4/14. Coston & Frankfurt, Apco Tower, archts. CD 2/14—ENR 2/24

Ore., Salem—First Christian Church, High and Center Sts., church to E. E. Batterman, 147 N. Commercial St., **$265,000.** CD 1/7—ENR 1/13, under LB

Pa., Chester — Chester Homes, Inc., 6205 Media St. Phila., residential development, 6 and Jeffrey Sts., separate contracts. Approx. **$560,000.** Richard R. Nelly, 10 S. 18 St., Phila., archt

Pa., Morrisville—Penn Valley Constr., Inc., 30 N. Penna Ave. residential development, Hillcrest Ave., separate contacts. Approx. **$250,000.**

Pa., New Bloomfield—Carson Long Institute, New Bloomfield, senior dormitory bldg., to Ray S. Mowery, 526 N. Hanover St., Carlisle. Approx. **$250,000.** Bids 3/17. CD 3/9—ENR 3/17

Pa., Overbrook Hills (Phila. P. O.)—Thomas H. Kelly, 1417 City Line Ave., Overbrook Hills, residential development, Bookhaven Rd., separate contracts. **$253,000.** James F Bradley, 240 Shawnee Rd., Merion Golf Manor, Merion, archt.

Pa., Phila.—Charles Litman & Sons, 2117 N. Hobart St., residential development, Woodcrest Ave., separate contracts. Approx. **$250,-000.** Lewis J. Cowan, 1505 Pine St., archt.

Pa., Phila. — Northwood Exclusive Homes, Inc., 2409 E. Allegheny Ave., residential development, Miriam Rd., separate contracts. Approx. **$250,000.**

Tenn., Memphis — Chandler & Chandler, Porter Bldg., 92 homes, Macon and Maria Rds. Owner builds. Approx. **$300,000.** CD 7/12/44—ENR 7/27/44.

Tenn., Memphis—Christian Brothers College, c/o contractor, administration and gymnasium bldg., to Dougherty-Lindsell Constr. Co., P. O. Box 2839, **$500,000.** Bids 4/9. CD 3/31—ENR 4/7.

Tex., Beaumont — Economy Homes Corp., M. L. Leffer, pres. Beaumont, 61 dwellings, Glenwood Addn. own forces. **$310,000.** CD 4/29

Tex., Dallas—Lewis & Lamberth, 3728 Mt. Rainier St., 75 frame residences. Owner builds. **$325,000.** CD 3/3—ENR 3/17.

Tex., Dallas—Tom Lively & Assoc., 6334½ Gaston St., 60 negro dwelling units, west of Harry Hines Blvd., own forces. **$250,000.** CD 4/8—ENR 4/21.

Tex., Dallas—Magnolia Petroleum Co., Magnolia Bldg., alterations, imprvs., remodeling Magnolia Bldg., incl. new exterior walls facing, bsmnt. remodeling, air-conditioning, force account. **$264,000.** CD 2/18—ENR 2/24, under CA.

Tex., Dallas—Marsalis Development Co., 3224 S. Marsalis St., 135 dwellings, in Oak Cliff. Owner builds. **$810,000.** CD 4/28.

●**Tex., Houston**—James H. Edmonds & Assoc., Oak St. and 8901 Humble Rd., 300 dwellings, between Bellaire Blvd. and Brae Burn Dr. own forces. **$2,600,000.** CD 11/3—ENR 11/18.

Tex., Houston—Halle Bayou Development Co., c/o Bud Holtz, Scanlan Bldg., 75 dwellings, Tautenhahn and Langley Rds., own forces. **$390,000.** CD 12/27.

Tex., Houston—Peckham Development Co., 2143 Westheimer Rd., housing, own forces. **$375,000.** CD 2/3—ENR 2/17.

Tex., Houston—Phoenix Furniture Co., 600 Travis St., store, to Tellepsen Constr. Co., 1710 Telephone Rd., Approx. **$250,000.** CD 4/26.

Tex., Houston—Tom C. Rhodes & Assoc., Brookside Dr. between Lawndale and Harrisburg St., four 2 story apartments. Owner builds. **$300,000.** CD 4/6—ENR 4/21.

Tex., Houston—Southmost Building Co., 2300 Pease St., 69 addnl. dwellings off Doolittle Blvd. Owner builds. **$575,000.** CD 4/6—ENR 4/21.

Tex., Orange—H. J. Lutcher Stark, Orange, masonry supermarket, concrete slab fdn., air-conditioning, to Herman Weber, San Jacinto Bldg., Beaumont. Approx. **$265,000.** Dan Armstrong, 304 Milam St., Houston, archt.

Tex., Pasadena—Murray Building Co., 4720 Sycamore St., Houston, 50 dwellings, Sunset Terrace addn. Owner builds. Approx. **$350,000.** CD 4/14.

Tex., Port Lavaca—Tom De Shazor, Port Lavaca, 75 dwellings, on southside. Owner builds. **$450,000.** CD 1/14—ENR 2/3.

Tex., San Antonio—C. M. Barley, 505 Winnepeg St. frame type housing, off Austin Hy. Owner builds. Approx. **$250,000.** CD 4/1—ENR 4/21

Tex., San Antonio—E. J. Burke & Sons, 4220 S. Zarzamora St., community center, parking garage, playgrounds force account. **$275,000.**

Tex., San Antonio—Mike Cassidy, Gunter Bldg., low cost housing day labor. **$300,000.** CD 4/14.

Tex., San Antonio—Delavan Realty Co., c/o George Delavan, 3302 W. Woodlawn St., 75 addnl. dwellings, Shearer Hills. Purchase and Hire. Approx. **$475,000.** CD 4/14

Tex., San Antonio—John P. Pfeiffer & Assoc., South Texas Bank Bldg., 90 addnl. dwellings, Eastlawn Addn. own forces. **$550,-000.** CD 4/14.

Tex., San Antonio—J. K. Stark, 302 College Blvd., housing, off Austin Hy., day labor. **$300,000.** CD 4/1—ENR 4/21; 42 dwellings, Unit 5, Terrell Heights. Owner builds. **$350,000.** CD 4/14

Tex., San Antonio—Woodlawn Heights Lumber Co., c/o A. E. Conger, 3855 Culebra Rd., low cost frame housing, Woodlawn Hills area, own forces. **$250,000.** CD 4/14

Tex., South Houston—Meador Lumber Co., c/o Rex Meador South Houston, addnl. housing. Owner builds **$250,000** CD 4/20.

Va., Roanoke—F. W. Woolworth Co., c/o contractor, department store, to R. E. Clarson, Inc. 2000 13 Ave. N. St Petersburg Fla., **$550,-000.**

W. Va., Parkersburg—Dr. R. D. Lattimer, 917½ Market St., top story addn. and remodeling department store, to Pike Constr. Co., 726 Jeannette St., Approx. **$500,000.** A. C. Crossett, 27 Williams St., New York, N. Y., archt.

Alta., Edmonton—N. G. Brettele Constr. Co. Ltd., Edmonton, office. Owner builds, **$500,000.**

Ont., Toronto—Yolles & Rotenberg, Ltd., 372 Bay St., 8 concrete, brick apartment bldgs., Upper Canada Dr., Yorkminster Sub-division, own forces. Approx. **$400,000.**

Que., Granby—Roman Catholic Parish of St. Benoit, Rev. J. Robin, cure, 2 story, 40x100 ft. presbytery, 70x165 ft. granite, brick church, St. Jean and St. Antoine Sts. N., to Compagnie de Constr. Berniere Gagen Ltd., 480 Boivin Blvd., Granby, Approx. **$300,000.** D. C. Cote, St. Benoit Du Lac, archt. CD 4/21—ENR 5/5.

Que., Montreal—Drummond Bldg. Ltd., 117 W. Ste. Catherine St., remodeling office, to Purdy & Henderson Ltd., 1414 Crescent St., Approx. **$400,000** McDougall & Assoc., 1235 McGill College Ave., archt. McDougall & Friedman, 1235 McGill College Ave., engr.

INDUSTRIAL BUILDINGS

BIDS ASKED

May 10

Que., Cote St. Luc (Postal Dist. Montreal)—YARD OFFICE, etc.—Canadian Pacific Railway Co. J. E. Armstrong, ch. engr., Windsor Station Montreal, Zone 3, yard office, signal tower, retarder control bldg., gasoline, acetylene and oxygen, storage, lump office, yardsman bldg., and two carmen's bldgs.

SOON LETS CONTRACT

Ga., Savannah—WAREHOUSE—Ballard & Ballard Co., c/o Carl E. Helgrich, 21 E. York St. soon lets contract warehouse.

N. C., Fayetteville — GARAGE — American Bakeries Co., c/o Stevens & Wilkinson, archt., 157 Luckie St. N. W., Atlanta, Ga., soon lets contract garage and truck area. Plans deposit $20.

Ont., Prescott—FACTORY—Parratt, Tambling & Witmer, archts., 57 Bloor St. W., Toronto, soon lets contract 1 story, 35x102 ft., concrete factory, St. Laurence Ave. and Hyde St., for Wellington Textile Co., J. C. Walker, secy., c/o archts. Approx. $80,000.

LOW BIDDERS

●**S. C., Kollocks**—PLANT—J. P. Stevens Co., Inc., c/o J. E. Sirrine Co., archt., Greenville, award postponed indefinitely, finishing plant, L. B. **$1,800,000.** CD 4/26—ENR 4/28, under LB.

CONTRACTS AWARDED

N. J., Westville—PLANT—Girdler Corp., 224 E. Broadway, Louisville, Ky., 40 ton day sulphur recovery plant to Freeport Sulphur Co., 122 E. 42 St., New York, N. Y.

●**N. Y., Menands (br. Albany)**—WAREHOUSE—International Harvester Co., 980 Broadway, Albany, 1 story steel, brick, parts depot to Christiansen & Neilson, Schenectady. CD 4/28, under N. Y., Albany.

Pa., Phila. — BAKERY — Hygrade Bakery Co., 5635 Race St., repairing bakery, to William Humphreys, 1306 Mt. Vernon St., Approx. **$68,000.**

Pa., Phila.—SALES and SERVICE—Wilkie Buick, Inc., 1724 N. Broad St., sales and service bldg. alterations, addns. to Raymond Roff Co., 1635 W. Thompson St., Approx. **$68,000.** CD 3/9—ENR 3/17.

Pa., Pittsburgh — GARAGE — Charles Rohrich, 2140 W. Liberty St., irregular shape, 90x140x170 ft., brick, steel garage, 2014 W. Liberty Ave., to C. H. Martin Co., 18 1 St., Zone 15, Approx. **$125,000.**

Pa., Pittsburgh — DIESEL SHOP — Union Railroad Co., F. R. Smith, ch. engr., East Pittsburgh, steel, irregular dimension diesel

shop bldg. at Hall Station, to Dick Constr. Co., 2532 Library Rd., Approx. **$700,000.** CD 3/29—ENR 4/7.

Pa., Port Carbon—WAREHOUSE—Port Carbon Development Co., Port Carbon, brick, steel warehouse, to Joseph T. Whalen, Pottsville, **$75,000.**

R. I., Cranston—PLANT—Grinnell Co., Inc., 260 Exchange St., Providence, 1 story addn. and 2 story unit 55x70 ft., brick, concrete tapping plant and office, to A. C. Beals, 63 Bassett St., Providence, approx. **$68,000.** Jackson Robertson & Adams, 1216 Turks Head Bldg., Providence archts

Tex., Corpus Christi—BAKERY—H. E. Butt Grocery Co., Robstown Rd., bakery unit. Owner builds. **$70,000.**

Tex., Dallas—PLANT—Homelite Corp., 3400 Ross Ave., plant, to W. Rouse & Son, 1712 N. Mont Clair St., **$85,000.** CD 4/11—ENR 4/21.

Tex., Dallas—HATCHERY PLANT—Wester Hatcheries, Inc., 903 Elm St., 120x203 ft., masonry, structural steel hatchery plant, to Joplin & Spencer, 331 Louisiana St. **$260,000.** Est. $100,000. Bids 4/15. CD 4/5—ENR 4/14.

Tex., Liberty—SHOP—W. Z. Trotti, Liberty 3 unit mechanical repair shop, own forces. Approx. **$75,000.** Paul T. Cahill, M. & M. Bldg., Houston, archt.

Tex., McKinney — TEXTILE MILL — Texas Textile Mills, McKinney, reconstruct wrecked textile mill, own forces. **$150,000.** CD 5/12—ENR 5/27/48

Tex., Odem—COTTON GIN PLANT—Smith Gin Co., Odem, cotton gin plant, day labor. Approx. **$115,000.**

Tex., San Antonio—MACHINE SHOP—San Antonio Machine & Supply Co., 325 N. Center St., 1 story, 120x200 ft., brick, steel machine shop, rein.-con. fdn., to A. E. Rheoner & Co., Transit Tower, **$90,000.** George Willis, 2303 Transit Tower, archt.

Tex., San Antonio—PACKING PLANT—San Antonio Packing Co., 2000 S. Laredo St., 2 story packing plant addn., to A. P. Rheiner & Sons, Insurance Bldg., Approx. **$100,000.** CD 4/13—ENR 4/21.

Va., Roanoke—WAREHOUSE, etc.—Kroger Co., c/o contractor, warehouse and garage, to M. Turner & Son, 137 Campbell Ave. W. **$200,000.**

Wash., Kennewick — WAREHOUSE, etc. — Consolidated Freightways, 2029 N. Q. Quimby St., Portland, Ore., 76x102 ft. freight warehouse and transfer dock, to Murray Constr. Co., Kennewick, **$97,000.** L. E. Poole, McKay Bldg., Portland, Ore., archt.

Wash., Yakima — WAREHOUSE — Inland Pipe & Supply Co., Yakima, 1 and 2 story, 60x300 ft., rein.-con. warehouse, to Leo S. Ross Constr. Co., Yakima, **$73,614.** J. W. Maloney, Larson Bldg., archt.

Wis., Alto—CREAMERY—Alto Co-operative Creamery, Alto, creamery, to H. K. Mews, Brandon. Approx. **$145,000.**

Wis., Milwaukee—FACTORY—Cutler-Hammer Co., 315 N. 12 St., Zone 3, 3 story L-shaped, 61x102x240 ft., rein.-con., steel, brick, tool making-heat treating bldg., to Walter W. Oeflein, Inc., 5345 N. Hopkins St., Zone 9. Eschweiler & Eschweiler, 720 E. Mason St., Zone 2, archts. CD 3/2—ENR 3/10.

Wis., Milwaukee — INDUSTRIAL — A. C. Spark Plug Div. of General Motors Co. of Detroit, Mich., 1925 E. Kenilworth Pl., Zone 2, remodel, alter 5 story bldg., close openings, new offices, etc., to Roland H. Becker, Inc., Elm Grove. Approx. **$170,000.** F. F. Drolshagen, 647 W. Virginia St. Zone 4, engr.

Wis., Neenah — WAREHOUSE — Kimberly-Clark Corp., Neenah, 6 story, bsmnt., 360,000 sq. ft. floor space, brick, concrete warehouse, to F. H. McGraw & Co., 51 E. 42 St., New York, N. Y.

Wis., Racine—WAREHOUSE—Owner, c/o S. C. Russell, archt., 1037 Park Ave., 1 and 2 story, 94x200 ft., stone, concrete block warehouse, concrete fdns., to Ferguson Constr. Co., 1119 Irving Pl.

Wis., Sheboygan — FACTORY — Northern Furniture Co., Sheboygan, addnl. 3 story 40x115 ft. to Bldg. 7 steel, concrete brick constr. separate contracts. W. C. Wicks, Inc., 718 Ontario St., archt.

Ont., Brampton — STORAGE — Peel Constr. Co. Ltd., 75 Main St. N., 1 story, 40x70 ft., concrete, steel office, 60x160 ft. garage, two 40x100 ft. concrete, wood storage bldgs., 40x140 ft. wood barn, conc. fdns., north side Hy. 7, near junction of Hys. 7 and 10, to Dover Constr. Co. Ltd., 75 Main St., Approx. **$130,000.**

UNCLASSIFIED

BIDS ASKED

May 10

Iowa — RURAL DISTRIBUTION LINES—Corn Belt Power Co-operative, Humboldt, 296 mi. 69 KV rural distr. lines, Palo Alto, Kossuth, Hancock, Floyd, Chickasaw, Bremer, Butler, Humboldt, Pocahontas, Buena Vista, Sac, Calhoun, Webster, Hamilton and Hardin Counties. Approx. $300,000 Stanley Eng. Co., Hughey Bldg., Muscatine engr CD 12/1—ENR 12/30.

†Ia., Knoxville—ELECTRICAL SYS. and TELEPHONE EQUIPMENT—Veterans Admin., Munitions Bldg., Wash. 25, D. C., underground electrical sys., telephone equip. Veterans Administration Hospital, Spec. 4909, Proj. No. 8-4019.

Nebraska—RURAL DISTRIBUTION LINES—McCook Public Power Dist., McCook, 340.5 mi. rural distr. lines, Red Willow, Frontier, Lincoln, Hitchcock and Hayes Counties. Plans deposit $25. Philip L. Burns, 630 Davenport Bank Bldg., Davenport, Ia. engr.

†R. I., Providence—PIER—Officer in Charge of Construction, First Naval Dist., Headquarters, 495 Summer St., Boston 10, Mass., repairing pier at U. S. Naval and Marine Corps Reserve Training Center, Spec. 21862. Plans deposit $10.

May 11

†Va., Richmond—MAIN POWER SERVICE—Pub. Wks. Office, Fifth Naval Dist., U. S. Naval Base, Norfolk, Zone 11, relocation main power service and lighting protection at Naval Reserve Training Center, Spec. 22201. Plans deposit $10

Ga., Augusta — SWIMMING POOL — City, Allen Park Swimming Pool, $75,000. E. Lynn Drummond & Lyman H. Robertson, Augusta, archts. CD 2/23—ENR 3/10.

May 16

†N. M., Las Cruces—UTILITIES—U. S. Eng., P. O. Box 1538, utilities and roads for family type quarters, (White Sands Proving Ground P-911 and NAV-93) Serial No. Eng-29-065-49-89.

On or About May 17

†Ia., Keokuk—CEMETERY IMPRV.—U. S. Eng., 1709 Jackson St., Omaha, Neb., imprv. Keokuk National Cemetery, Serial No. Eng. 25-066-49-1.

May 17

Calif., Los Banos—SWIMMING POOL— Los Banos High School Dist., Los Banos, rein.-con. swimming pool, concrete 14 ft. deck, and chlorination and filtration sys. at West Side High School. Approx. $50,000. Plans deposit $10. David H. Horn & Marshall D. Mortland, 1244 O St., Fresno, archts. CD 4/7/48—ENR 4/15/48.

†Washington—TRANSFORMERS, etc.—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., power transformer, power circuit breakers, air switches and instrument transformers for Roza Switchyard, Roza Div. Yakima Proj., Spec. 2619. Extended date. CD 3/23—ENR 3/31.

†Washington — LIGHTNING ARRESTERS, TRANSFORMERS, etc.—Bureau Reclamation, Dpt Interior, Bldg 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shopping point, or f.o.b. cars Odair, station type lightning arrestors; manually-gang-operated, outdoor, selector-type switch; outdoor current transformers for Grand Coulee Right Power Plant and Grand Coulee 230 kv right switchyard, Columbia Basin Proj., Spec. 2633.

†Wyoming — TRANSFORMERS — Bureau Reclamation, Dpt. Interior, Bldg 1-A, Denver federal center, Denver, Colo., furnishing, del. f.o.b. cars shipping point and f.o.b. cars Thermopolis, outdoor-type current transformers; outdoor potential transformers for Thermopolis substation. Transmission lines Unit, Missouri River Basin Proj., Spec. 2632.

May 18

†S. C., Beaufort—CEMETERY FACILITIES—U. S. Eng., Post office Bldg., Savannah, **†Ga.**, addnl. facilities at Beaufort National Cemetery, Serial No. Eng-09-133-49-172. CD 4/13—ENR 4/21.

May 19

†Arizona—CONTROL CENTER, etc.—Bureau Reclamation, Dpt. Interior, Denver Federal Center, Bldg. 1-A, Denver, Colo., control center, lighting distr. panel board, power distr. panel boards, and cabinet transformers, for Davis Power Plant, Davis Dam Proj., Spec. 2628. L. N. McClellan, cls. engr.

†Md., Chesapeake City — ELECTRICAL DISTRIBUTION SYSTEM — U. S. Eng., 121 N. Broad St., Phila., Pa., reconstructing electrical distr. sys., south bank Inland Waterway between Delaware River and Chesapeake Bay (Chesapeake and Delaware Canal) approx. 21 mi. southwest of Wilmington, Del., and 6 mi. south Elkton, Md.

May 20

Calif., San Diego — PIER — City Harbor Comm., Civic Center Bldg., Harbor imprvs., incl. 2'8" ft. Pier exten., dredging channel and approaches, bulkhead, lighting and wiring fields. $600,000. Extended date. J. R. Liebmann, 1040 W. Broadway, harbor engr. CD 4/14—ENR 4/21.

June 1

●†Oregon — TRANSFORMERS — U. S. Eng., Walla Walla, Wash., transformers, McNary Dam. $1,000,000-$2,000,000. CD 1/19—ENR 1/27.

●†Oregon—RAILROAD RELOCATION—U. S. Eng., Walla Walla, Wash., relocation S. P. & S. R. R., Stations 6663 to 7014, McNary Dam. $2,000,000-$3,000,000.

June 14

●†Oregon—RAILROAD RELOCATION—U. S. Eng., 628 Pittock Block, Portland, relocate S. P. R. R. Stations, 1515 to 1655 and Hy. No. 58, Stations 201 to 342, Lookout Point Dam. $1,000,000-$2,000,000.

SOON LETS CONTRACT

Ala., Birmingham—BATH HOUSE—Tennessee Coal, Iron & Railroad Co., c/o Shaw & Renneker, archts., 2021 6 Ave., soon lets contract bath house at Hamilton Mine No. 5.

LOW BIDDERS

Alabama—RURAL DISTRIBUTION LINES—Sand Mountain Electric Co-operative, Fort Payne, Apr. 19, 240 mi. rural distr. lines, incl. 22 mi. 3 phase, 2 mi. conversion 1 to 3 phase, 1 mi. removal, 177 mi. single phase, 20 mi. secondary, 20 mi. services, 558 consumers, in DeKalb and Jackson Counties, from Irby Constr. Co., 129 Congress St., Jackson, Miss., **$320,299.** CD 3/29—ENR 4/7.

California—TRAFFIC DEFLECTOR—State Div. Hys., P. Wks. Bldg., Sacramento, Apr. 13, rein.-con. traffic deflector on Grapevine Grade between Port Tejon and 1.4 mi. north of Grapevine, Kern Co., from Hessler Constr. Corp., 816 Allen Ave., Glendale, **$192,770.** CD 3/23—ENR 3/31.

California—BOAT BASIN—State Div. Water Resources, P. Wks. Bldg., Sacramento, Apr. 20, boat basin in Morro Bay Park, San Luis Obispo Co., from Shelimaker, Inc., 124 W. 4 St., Los Angeles, **$60,645.** CD 4/7.

Calif., San Francisco—TRACK REMOVAL, etc.—Dpt. P. Wks., City Hall, Apr. 13, removing tracks, reconstr. pavement on 11th St. from Castro to Market Sts. and Market St. from 18 to Clayton Sts., from Fay Imprvt. Co., 760 Market St., **$57,202.**

Georgia—RURAL DISTRIBUTION LINES—Sumter Electric Membership Co-operative, Americus, Apr. 20, 289.27 mi. rural distr. lines, 38165 mi. conversion in Schley, Randolph, Sumter, Marion, Chattahoochee, Terrell, Webster, Lee and Stewart Counties, from Chambliss & White Constr. Co., Alamo, **$113,413.** CD 4/4—ENR 4/7.

Ga., Brunswick — BOAT FACILITIES—Glynn Co., Brunswick, small boat facilities, from Thompson Brothers, Brunswick, **$57,471.**

Iowa — RURAL DISTRIBUTION LINES — Southwestern Federated Power Co-operative, Creston, Apr. 6, 121.1 mi. 34.5 KV rural distr. lines, Adair, Madison, Union, Clarke, Lucas, Wayne, Ringgold, Union and Adams Counties, from C. A. Hooper Co., 453 W Gilman St., Madison, Wis., **$341,673.** CD 3/22—ENR 3/31.

Kansas—RURAL DISTRIBUTION LINES—Central Kansas Electrical Co-operative, Great Bend, Apr. 5, labor only 260 mi. rural distr. lines, from A. F. Ross, National Bank of Topeka Bldg., Topeka, **$67,703.** CD 9/27—ENR 10/14

La., Jennings—SWIMMING POOL, etc.—City, City Hall, Apr. 15, swimming pool and bath house, from Norman & Co. Inc., P. O. Box 1463, Lake Charles, **$80,981.** CD 3/23—ENR 3/31.

La., Plaucheville—NATURAL GAS SYSTEM—Town, Towns Hall, Apr. 20, natural gas sys., from Roy Barry, P. O. Box 110 Kilgore, Tex. **$66,325.** CD 4/7—ENR 4/14.

La., Thibodaux—SWIMMING POOL—City, City Hall, Apr. 19, swimming pool, from Union Constr. Co., 2634 Almonaster Ave., New Orleans, **$139,424.** CD 4/4—ENR 4/7.

●†Mississippi and Louisiana—CONCRETE MATTRESS, etc.—U. S. Eng., P. O. Box 60, Vicksburg, Miss., Apr. 6, Lot 1, 150,000 square articulated concrete mattress and 150,000 bbl. cement at Greenville Casting Field, Miss., from Fred Girod & The Girod Co., Inc., Vicksburg, Miss., **$1,113,000** est. $1,091,670*** Lot 2, 50,000 squares and 50,000 bbl. cement, at Greenville Casting Field Miss., from Fordice Constr. Co., Porter Bldg., Memphis, Tenn., **$366,633** est. $346,350***Lot 3, 50,000 squares and 50,000 bbls cement, cast at Delta, La., from Ready Mix Concrete Co., Holly St., Vicksburg, Miss., **$162,900** est. $176, Serial No. Eng. 22-052-49-142. CD 3/16—ENR 3/24.

Missouri—RURAL DISTRIBUTION LINES—Crawford Electric Co-operative, Inc., S. H. Hicks, pres., Bourbon, Apr. 7, 240.66 mi. rural distr. lines, Crawford, Franklin, Washington, Gasconade and Dent Counties, Mo., Proj. Missouri 54-H, Crawford, from Hufford & Kyger Constr. Co., Kansas City, Mo., **$94,451.** CD 4/5—ENR 4/14.

Mo., Ferguson (St. Louis, Zone 21, P. O.—SWIMMING POOL—City, Harry J. Vosburgh, mayor, City Hall, 14 Church Rd., Apr. 25, concrete swimming pool, concrete bathhouse at January Wabash Park, from C. Rallo Contr. Co., 5000 Kemper Pk., St. Louis, Zone 9, **$114,264.** Est. Approx. $100,000. CD 4/11—ENR 4/14.

Mont., Billings — GRANDSTAND — Yellowstone Co., Billings, April 12, general contract 108x182 ft. steel, rein.-con. grandstand, Midland Empire Fairgrounds, from Rimrock Constr. Co., 2325 9 Ave., N., **$237,000.** CD 3/2—ENR 3/10.

New Mexico — RURAL DISTRIBUTION LINES—Continental Divide Electric Co-operative, Gallup, Apr. 6, for rural distr. lines, McKinley Co., from J. & J. Constr. Co., 1st. Natl. Bldg., Oklahoma City, Okla., **$82,177.** CD 4/5.

N. Y., New York—PARK IMPRVS.—Comr. Parks, Dpt. Parks, Arsenal Bldg., Central Park, 64 St. and 5 Ave., Zone 21, Apr. 26, reconstructing various areas in Sara Delano Roosevelt Playground from Canal St to E. Houston St., between Chrystie and Forsyth Sts. Contr. No. M-105-148, from Frank Mascali, Inc., 4634 Third Ave., Zone 57, **$186,005.** CD 4/19.

South Dakota — RURAL DISTRIBUTION LINES—Moreau—Grand Electric Co-operative, Timber Lake, Mar. 30, 204 mi. rural distr. lines, Sect. A, Dewey Co., from Delta Constr. Co., Clarksdale, Miss., **$283,000.** CD 3/16—ENR 3/24.

Texas — RURAL DISTRIBUTION LINES — Grayson-Collins Electric Co-operative, Inc., Van Alstyne, Apr. 19, labor for 123 mi. rural distr. lines, Grayson and Collin Counties, from Joe Chapin, Medical Arts Bldg., Waco, **$48,378,** materials, **$55,000.** total $103,378. CD 4/6.

Texas — RURAL DISTRIBUTION LINES — Southwest Texas Electric Co-operative, Inc., Apr. 21, labor for 146 mi. rural distr. lines, Sutton, Crockett and Val Verde Counties, from W. J. Thomas & Co., 2608 Inwood Rd., Dallas, **$46,881,** materials, Approx. **$70,000,** total **$116,-881.** CD 4/1—ENR 4/7.

Tex., Honey Grove — ATHLETIC FIELD — Honey Grove Independent School Dist., Honey Grove, Apr. 7, grading, athletic field, bleachers, fieldhouse, from George E. Turner, Honey Grove, **$61,966.** CD 2/3—ENR 2/17.

Va., Richmond—STADIUM—City, Apr. 19, concrete and other work enlarging Richmond City Stadium, from Thorington Constr. Co., 205 E. Canal St., **$74,882.** CD 5/5—ENR 5/27/48.

†Washington—TRANSMISSION LINE—Bonneville Power Admin., 729 N. E. Oregon St., Portland 8, Ore., Apr. 12, 32.9 mi. Eldon-Fairmount sect. of Shelton-Fairmount 115 kv. transmission line, Inv. 4544, Mason and Jefferson Counties, from Power Constr. Co., White Bldg., Seattle, **$147,952.** CD 3/29—ENR 3/31.

Wash., Wenatchee — LIGHTING SYSTEM—City, City Hall, Apr. 11, street lighting sys. in business district, from B. E. Knowles, Wenatchee, **$57,098.** CD 4/4.

CONTRACTS AWARDED

Calif., Los Angeles—PLAYGROUND BLDG.—City, City Hall, El Sereno Playground Clubhouse, to Choitner & Gumbiner, 2123 W. 8 St., **$68,224.** Est. $64,000. Awarded 4/18. Milton Caughey, 2738 Westwood Blvd., archt. CD 9/27/48—ENR 10/14/48.

Calif., Los Angeles—CONDUIT—The Pacific Telephone & Telegraph Co., 740 S. Olive St., Los Angeles, 13,572 ft. underground tile conduit, to Bock Co., 1120 N. Lane Ave., **$52,853.**

Calif., Rio Vista — SWIMMING POOL — City, City Hall, memorial swimming pool, to C. Norman Peterson, 2832 9 St., Berkeley, **$52,250.** Bids 4/14, awarded 4/14. CD 4/6.

Conn., Meriden — GAS SPHERES — Connecticut Light & Power Co., W. Main St., three 76 ft. diam. horton gas spheres, Cooper St., to Chicago Bridge & Iron Co., 332 S. Michigan St., Chicago, Ill, **$400,000.**

Del., Wilmington — BROADCASTING STATION—Station WDEL, Inc., 10 and King Sts., television broadcasting station, to Van Sant Bros., Inc., 14 Ashley Pl., **$50,000.** Pope & Kruse, Elks Bldg., archts. CD 8/16/44—ENR 9/7/44.

Florida—RURAL DISTRIBUTION LINES—West Florida Electric Co-operative, Graceville, rural distr. line, extens., for expansion rural electric service and facilities. Owner builds. **$400,000.** CD 10/26—ENR 11/4.

Georgia—RURAL DISTRIBUTION LINES—Altamaha Electric Membership Corp., Lyons, rural distr. lines, Emanuel, Laurens, Montgomery, Treutlen and Toombs Counties, to W. L. Coston & Sons, First National Bank, Birmingham, Ala., **$539,284.** Bids 4/6. CD 4/14—ENR 4/21, under LB.

Georgia—RURAL DISTRIBUTION LINES—Lamar Electric Membership Corp., Barnesville, 135.33 mi. rural distr. lines, Lamar, Bibb Crawford, Meriwether, Monroe, Pike, Spalding and Upson Counties, to Roy Richards Constr. Co., Carrollton, **$149,337.** Bids 4/19. CD 3/28—ENR 3/31.

Ga., Savannah — DRIVE-IN THEATER — Montgomery, Inc., c/o contractor, drive-in theater, to Jerome Constr. Co., Savannah. Approx. **$55,000.**

●Ill., Chicago—SUBWAY SWITCHBOARDS, etc.—City Dpt. Purchases, Contracts & Supplies, City Hall, switchboards, electrical cabinets, conduits, wires, cables, etc., Contr. E-3, Dearborn St. Subway, to Kill-Bar Electric Co., 2261 Clybourn Ave., **$1,193,567.** Bids 3/10. CD 2/21—ENR 3/3.

●Ill., Chicago—GAS HOLDER—Peoples Gas Light & Coke Co., 122 S. Michigan St., general contract 218x277 ft. gas holder, to Jno. Griffiths & Son Constr. Co., 221 N. LaSalle St., **$1,500,000.** Awarded 4/21. Wm. Burson, 122 S. Michigan St., engr.

Iowa — RURAL DISTRIBUTION LINES — Central Iowa Power Co-operative, Cedar Rapids, Sects 3 and 4, rural distr. lines, Proj. Iowa 83GT, Cedar Rapids, to Hoak Constr. Co., 631 63 St., Des Moines, **$615,406.** CD 4/20—ENR 4/28, under LB.

Iowa — RURAL DISTRIBUTION LINES — Central Iowa Power Co-operative, Cedar Rapids, rural distr. lines, Sect. 5, Proj. Iowa 83 GT, Cedar Rapids, Linn Co., to Miller Constr. Co., P. O. Box 209, Linton, Ind., **$106,-105.** Bids 3/11. CD 2/16—ENR 2/24.

Kan., Ellinwood—SWIMMING POOL, etc.—City, City Hall, swimming pool, bath house, to N. F. English, Box 86, Hutchinson, **$59,500.** Bids 4/11. CD 4/6.

Kentucky—RURAL DISTRIBUTION LINES—Jackson Co. Rural Electric Co-operative, McKee, 205 mi. rural distr. lines, Jackson Co., force account. Approx. **$100,000.** CD 2/28.

●Md., Baltimore—STADIUM—Mayor & City Council, City Hall, demolition, alteration structures, grading, lower stands, Sects. A to LE and A to LW, Municipal Stadium, 33 St., to De Luca Davis Constr. Co. and Fred D. Carozza & Co., 102 E. 25 St., **$1,400,750.** Bids 4/20. CD 4/14.

Mo., Mexico—DRIVE-IN THEATRE—Andy Dietz & Assoc., c/o Co-operative Theatres, Andy Dietz, genl. mgr., 3142 Olive St., St. Louis, Zone 3, Little Dixie Drive-In Theatre, 10 acre site approx. 2 mi. east of here, separate contracts. Approx. **$50,000.**

Neb., Omaha—FIELD HOUSE—Omaha University, 60 and Dodge Sts., general contract fieldhouse, to E. E. Gilmore Co., 1207 N. 11 St., **$381,947;** plumbing and heating, to Natkin & Co., 514 S. 11 St., **$59,340.** Bids 3/30. CD 3/22.

North Carolina — RURAL DISTRIBUTION LINES—Haywood Electric Membership Corp., Waynesville, 116 mi. rural distr. lines and other imprvs., Haywood Co., force account. **$212,000.** R. O. Vannort, 218 W. 2 St., Charlotte, engr. CD 3/4.

North Dakota — RURAL DISTRIBUTION LINES—Capital Electric Co-operative, Bismarck, 372 mi. rural distr. lines, Burleigh Co., to Rue Contg. Co., Fargo, **$432,876.** Bids 3/31. CD 3/23.

†Oregon—RAILROAD RELOCATION—U. S. Eng., Pittock Block, construct sect. of Southern Pacific R. R. relocation and sect. of Oregon State Hy. 58 relocation in vicinity of Lookout Point Dam, Eng-35-026-49-435, Lane Co., to Kenneth L. Goulter & Co., Dexter, **$983,620.** Est. $1,032,817. Bids 4/12. CD 4/21—ENR 4/28, under LB.

South Carolina — RURAL DISTRIBUTION LINES—Broad River Electric Co-operative, Gaffney, 100 mi. rural distr. lines and other imprvs., Union, Cherokee and Spartanburg Counties, force account. **$230,000.** CD 4/14.

S. D., Watertown — DRIVE-IN THEATER — Drive-In Theatres, Inc., Watertown, drive-in theatre, to George Aurit, 2113 S. Lake St., Sioux Falls, **$100,000.** Richard Nohlgren, 1118 S. Western St., Sioux Falls, archt.

Texas—OIL PIPELINE—Gulf Refining Co., Pipe Line Div., Gulf Bldg., Houston, 4 in. crude oil pipeline outlet in vicinity of Red Fields area, Tyler (at Red Smith) Smith Co., own forces. Approx. **$50,000.**

Texas—GAS LINE—Humble Oil & Refining Co., 1216 Main St., Houston, 10 mi. 12 in. gas transport line between Yantis and Picton Fields, Wood and Hopkins Counties, Purchase and Hire. Approx. **$70,000.**

Tex., Amarillo — STADIUM — Amarillo Independent School Dist., Amarillo, 15,000 seat stadium, to Bell, Braden, Barker & Gilvin, Inc., Amarillo, **$145,000.** Est. $200,000. CD 4/13—ENR 4/21, under LB.

Tex., Marshall—GAS LINE—E. C. Johnson, Marshall, 16 mi. 10 in. gas lines from 10 mi. southeast of here to 6 mi. northeast, own forces. **$180,000.** CD 10/20—ENR 10/28.

Tex., San Antonio—GAS LATERALS and MAINS—City Public Service Bd., 201 N. St. Marys St., addnl. gas laterals and mains in old districts, **$275,000;** addnl. transmission electric lines, rehabilitation and replacement in various sects. of city, **$85,000,** force account. CD 11/11/48—ENR 11/25/48.

Tex., San Antonio—ELECTRIC DISTRIBUTION LINES, etc.—City Public Service Board, 201 N. St. Marys St., addnl. electric distr. lines, in outlying districts, **$350,000;** electric power sub-station in outlying district, **$78,000;** force account. CD 11/11/48—ENR 11/25/48.

Tex., Sugarland—FENCING—State Bd. Control, State Capitol Bldg., Austin, cyclone detention fences at Harlam, Ramsey and Goree Farms, force account. **$58,600.**

Tex., Waskom—GAS LINE—La Gloria Corp., Driscoll Bldg., Corpus Christi, gas line gathering sys., own forces. **$225,000.** CD 9/16—ENR 9/30.

Wash., Seattle — FIELDHOUSE — Park Comm., 2334 4 Ave., Zone 1, 2 story, 111x174 ft., brick, concrete field house with steel trusses at Loyal Heights Playfield, to O. E. Turnquist Constr. Co., Orpheum Bldg., Zone 1, **$317,704,** est. $350,000; b. conc. resurfacing Lake Washington Blvd. through Washington Park, to Washington Asphalt Co., 309 W. 39 St., **$80,480,** est. $90,000. CD 4/1—ENR 4/7.

British Columbia—DIKE—Dpt. P. W., Hunter Bldg., Ottawa, Ont., renewal Sapperton Dike 1, on Fraser River, Queens Reach, to Fraser River Pile Driving Co. Ltd., New Westminister, Approx. **$93,000.** Bids 3/30. R. Blais, c/o owner, engr. CD 3/10—ENR 3/17.

Ont., Fort William—PARK IMPRVS.—Municipality, Chippawa Park imprvs., day labor, under supervision A. Widnall, supt. Parks Bd. **$75,000.** Park's Bd., 218 Brodie St. N., engr.

Ont., Ottawa — COLISEUM WING — Central Canada Exhibition Assn., Lansdown Park, Bank St., livestock wing addn. to coliseum, Bank St., to George A. Crain & Sons, 555 Cambridge St., Approx. **$313,653.** Est. approx. $300,000. Bids 3/4, awarded 4/20. CD 2/16—ENR 2/24.

Ont., Thornhill—SWIMMING POOL—Municipality, swimming pool, to Henry Upton, Elgin Mills, **$57,000.** Est. $60,000. Bids 4/11, awarded 4/16. Former contract cancelled. CD 3/23—ENR 3/31, under CA.

Que., Montreal—GOLF COURSE—Municipality, golf course, St. Paul's Ward, own forces. Approx. **$60,000.** H. A. Gibeau, city engr.

Sask., Black Lake—MINE DEVELOPMENT—Nisto Mines Ltd., Regina, uranium mine development, Black Lake, northern Saskatchewan's Lake Athabaska area, day labor, **$100,000.** Norman Edgar, c/o owner, engr.

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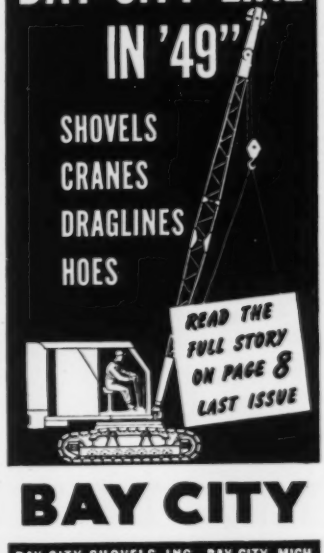

SHOVELS
CRANES
DRAGLINES
HOES

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BAY CITY
BAY CITY SHOVELS, INC., BAY CITY, MICH.

CONSTRUCTION REPORTS—Third Section

WATER SUPPLY

BIDS ASKED

May 16

Tex., Dallas—Park Cities Water Control & Imprvt. Dist. 2, c/o E. B. Germany, 25½ Highland Park Shopping Village, water imprvs., earth fill dam, 60 in. pipe conduit, well, $100,000. Plans deposit $25. Powell & Powell, 501 Thomas Bldg., engrs. CD 5/2.

May 17

Ala., Montgomery—City, 3 gravel wells. Plans deposit $10. Wiedeman & Singleton, Citizens & Southern National Bank Bldg., Atlanta, Ga., engrs.

O., Columbus—City, WW Dpt., C. R. Hoover, supt., City Hall, water filtration plant, Alum Creek. $400,000. CD 1/18/45—ENR 2/8/45.

May 19

Fla., Jacksonville—City, City Hall, water distr. sys. addns., extens., in South Jacksonville. Plans deposit $25. Reynolds, Smith & Hill, 227 Park St., engrs. CD 5/17/46—ENR 5/23/46.

LOW BIDDERS

Colo., Denver—Bd. Water Comrs., City and County Bldg., returned unopened bids to have been opened Apr. 21, installing 14,137 ft. waterlines incl. 14,497 ft. 24- to 42-in. ID pipe, Will readvertise. D. D. Gross, ch. engr.

●**Kan., Kansas City**—City, Bd. P. Utilities, Apr. 29, treatment plant, chemical bldg., basins, from Patti Constr. Co., 1340 Admiral Blvd., Kansas City, Mo., **$1,449,800.** CD 3/29—ENR 3/31.

Kan., Norton—State of Kansas, Topeka, watermains, water treatment plant, elevated tower, State Sanitarium, from Underwood Constr. Co., 218 Jackson St., Topeka, **$62,283.** C. L. Marshall, Topeka, state archt.

CONTRACTS AWARDED

Ill., Paris—City, F. L. McCord, clk., Paris, electrical and pumping equip., etc., municipal water treatment plant, to Holdren Constr. Co., Mt. Vernon, **$77,061.** Bids 4/18. CD 4/5—ENR 4/7.

Ill., Wilmette—Village, Village Hall, watermain extens., west side of city, to P. Scalzitti, 3140 N. Linden St., Chicago, and John Medo Scully, 4709 W. Montana St., Chicago, **$172,-433.** Consoer, Townsend & Assoc., 351 E. Ohio St., Chicago, engrs.

N. C., Dunn—Town, Town Hall, Contr. 3, waterlines, Contr. 3, to Zeigler-Cline Constr. Co., Box 386, Fayetteville, **$105,150.** Bids 4/15. CD 4/26—ENR 4/28, under LB, under Sewers, Waste Disposal.

Tex., Duncanville — Dallas County Fresh Water Supply Dist. 8, Duncanville, watermains, to W. G. Cullum & Co., Gr. Natl. Life Bldg., and Cole-Williams Co., Route 7, Box 429 A, Dallas, **$28,000.** Bids 5/25. Chick McElya, 4303 Somerville Rd., Dallas, engr.

Tex., Elgin—City, City Hall, addnl. WW sys. imprvs., 6 in. mains, fire plugs, pumping, force account. **$30,000.** Otto Francke, city engr.

Tex., Houston—Southerest, Inc., Union Natl. Bank Bldg., waterlines, facilities to Vernon Miller, 2015 McClendon St., **$36,000.**

Wis., Milwaukee—City, City Hall, 200 E. Wells St., laying watermains, W. Wisconsin Ave., to Tomaro, Carlo & Tomasini, 5317 S. Lake Dr., Cudahy, **$39,044.** J. P. Schwada, city engr. Bids 4/26, awarded 4/28.

SEWERS, WASTE DISPOSAL

BIDS ASKED

May 11

N. Y., St. George — President Richmond Boro, Borough Hall, St. George. Zone 1, sanitary sewer in easement through the property of New York City Housing Auth. from Kramer St. to Reid Ave.; storm water sewers in Kramer St. from Lamport Blvd. to Norway Ave., and other streets; sanitary sewers in Radcliff Rd. from point about 120 ft. east of Briarcliff Rd. to Beverly Rd., etc.

May 16

N. Y., South Ozone Park—Dpt. P. Wks., Municipal bldg., New York. Zone 7, Contr. No. R-17, structural and mechanical work; Contr. R-17E, electrical work at Jamaica Sewage Treatment Works, 131 St. and 150 Ave. Plans deposit $10 each.

May 17

Fla., Chattahoochee—Florida State Improvement Comn., c/o Reynolds, Smith & Hills, engrs., P. O. Box 4817, Jacksonville, sewage disposal plant alterations, addns., at Florida State Hospital. Plans deposit $25.

N. C., Hickory—City, H. L. Burdett, sewer line extens., 37,745 lin. ft. 8-to 12-in. sewer lines, 141 manholes, 750 cu. yd. rock excav., 25 cu. yd. concrete for cradles, 75 cu. yd. concrete inplace for piers, fittings, etc. Plans deposit $15. Abernathy & Scott, Hickory, engrs. CD 2/24/44—ENR 3/9/44.

Tex., Waco.—City, City Hall, sanitary sewerage sys. imprvs. Approx. $50,000. Joe J. Rady, 811 American Fidelity Bldg., Fort Worth, engr. CD 2/21—ENR 2/24.

May 20

Mass., Gloucester—City, L. N. Peterson, chn., Sewerage Survey, Gloucester, brick, concrete, steel, sewage pumping station. $50,000. Plans deposit $5. Fay, Spofford & Thorndike, 11 Beacon St., Boston, engrs.

May 21

Fla., Fort Lauderdale—City, S. H. Marshall, clk., sewage treatment plant alterations, addns. Plans deposit $25.

June 1

N. Y., Brooklyn—Dpt. P. Wks., Municipal Bldg., New York. Zone 7, Contr. 161-C, sewers in 1 Ave., E. 48 St., E. 42 St., Park Ave. and Franklin D. Roosevelt Dr., relocation of city watermains, Bd. Transportation power ducts, gas mains, steam mains, and electric ducts of the Consolidated Edison Co. and subsidiaries, and electric ducts of Empire City Subway Co., from bed of 1 Ave between E. 40 St., and E. 49 St., together with incidental work, in connection with constr. of tunnel in 1 Ave. vicinity of United Nations site, with ramp approaches, etc. between E. 40 St. and E. 49 St. Plans deposit $100. CD 3/29—ENR 4/14.

LOW BIDDERS

Mo., Sedalia—City, J. M. Bailey clk., City Hall, Apr. 25, bldgs. for South Sewage Treatment Plant, from Lippert Bros. Constr. Co., 2800 N. Santa Fe., Oklahoma City, Okla., **$136,000.** CD 3/25—ENR 3/31.

Okla., Oklahoma City—City, City Hall, Sanitary Sewer Sub Main Contract 3, from Earl W. Baker Co., Bethany, **$500,374.** Est. $349,-496. Benham Eng. Co., American Natl. Bank, Zone 2, engr. CD 12/5/45—ENR 1/3/46.

S. C., Sumter—City, City Hall, Apr. 21, general contract Fulton Street Sewage Pumping station and extens. to sewerage sys. from Boyle Constr. Co., Sumter. Approx. **$188,000.** CD 4/5—ENR 4/7.

Tex., Dallas—City, City Hall, Main and Harwood St., Apr. 26, sanitary sewers, Freeman and Cotton Belt Branch sanitary sewers, from Browning tracts to approx. 1 mi. north Carlton Home on Devonshire, from W. H. Nichols, 3015 Grand Ave., **$65,858.** CD 12/12/47—ENR 12/26/47.

CONTRACTS AWARDED

Tex., Houston—Southerest, Inc., Union Natl. Bank Bldg., sanitary sewers, to Vernon Miller, 2015 McClendon St. Approx. **$60,000.** CD 4/28.

BRIDGES

BIDS ASKED

STATE HIGHWAY LETTINGS

May 11	**May 13**
Maine	**Kentucky**
May 12	**Pennsylvania**
Montana	**May 17**
	Wisconsin

June 2

†**Delaware**—U. S. Engr., 121 N. Broad St., Phila., 1, Pa., pier protection works repairs at north pier of Pennsylvania Railroad Bridge across the Chesapeake and Delaware Canal, near Kirkwood.

LOW BIDDERS

Colorado—State Hy. Dpt., Denver, overpass, grading, concrete pavement 0.62 mi. State Hy. 1, from 200 ft. inside north city limits of Colorado Springs northerly approx ½ mi. north Colorado Springs, El Paso Co., from Brown Constr. Co., 1539 E. Abriendo St., Pueblo, **$281-241.** Est. $312,444. CD 4/20.

Missouri—State Hy. Dpt., Jefferson City, Apr. 22, two 30 ft. and three 60 ft. steel truss span bridge over Ditch 1 and Ditch 1 over Buffington to Morehouse, Rt. 60, Proj. F 118 (4), Sta. 683 plus 95, Stoddard Co., from J. A. Tobin Constr. Co., 3709 Rainbow St., Kansas City, Kan., **$77,138.** CD 4/6—ENR 4/11.

New Jersey—State Hy. Dpt., Trenton, Apr. 28, Wallkill River Bridge and channel relocation near Hamburg, Rt. 23, Sect. 8C, Sussex Co., from Construction Service Co., Inc., Linden Blvd., Middlesex Boro, Round Brook, **$179,068.** CD 4/13—ENR 4/21.

●**Pennsylvania** — State Hy. Dpt. Harrisburg, Apr. 29, bridge replacing the wrecked Penrose Ave. structure across Schuylkill River in Philadelphia, Philadelphia Co., from Lipsett, Inc., 80 Wall St., New York, N. Y. **$178,900;** construct 3 span cantilever truss and 54 plate girder spans of the new superstructure, Philadelphia, Co., from Bethlehem Steel Co., E. 3 St., Bethlehem, **$6,293,747.** CD 4/11—ENR 4/14.

STREETS AND ROADS

BIDS ASKED

STATE HIGHWAY LETTINGS

May 10	**May 13**
Colorado	**Kentucky**
Iowa	**Pennsylvania**
Maryland	**Washington**
Massachusetts	**May 17**
Ohio	**Virginia**
West Virginia	**Wisconsin**
May 11	
Colorado	
Maine	

May 11

Ia., Clarion—City, City Hall, street imprvs. $100,000. Rowat & Murray, Redmond, engrs.

Md., Baltimore—Mayor & City Council, City Hall, sheet asph. repaving streets, Hy. Contrs. 978, 977, c. conc. paving streets, Contr. 973, 972, 968 and 182. Plans deposit $5. J. H. McKay, hy. engr. CD 11/20/46—ENR 12/12/46.

May 12

Minn., Caledonia—Village, Village Hall, 32,-738 ft. curb and gutter 15,289 cu. yd. street and 4,632 cu. yd. boulevard excav., 11,477 cu. yd. base course surf., alt. 61,637 sq. yd. asph. mat., 53,950 sq. ft. sidewalks, 3,000 cu. yd. rock salvage, 61,637 sq. yd. plant mix bit. mat. Plans deposit $15. Davy Eng. Co., La Crosse, Wis., engr.

May 20

Calif., Davis—Bd. Regents University of California, Berkeley, grading, paving, and sprinkler systems at Davis Campus. Plans deposit $10.

LOW BIDDERS

●**California**—State Div. Hys., Sacramento, Apr. 27, c. conc. on bit. tr. subgrade 3.3 mi. constr. separation structures, between South City limits and High St., Oakland, Alameda Co., from Frederickson & Watson Constr. Co., 873 81 Ave., Oakland, **$1,337,813***** plant mix surf. between 3.5 mi. east of Broadway Tunnel and Route 107 in Walnut Creek, Contra Costa Co., from J. R. Arnautovich, 400 Central Ave., El Cerrito, **$305,382***** road mix surf., shoulders 18.1 mi. between 1½ mi. south of Lone Pine and Bishop Inyo Co., from Oilfields Trucking Co. & Phoenix Constr. Co., Box 906, Bakersfield, **$52,188***** graded roadbed, place imported borrow, supply bit. surf. 5.3 mi. between 5 mi. north of Kettleman City and 5 Standard Parallel South, Kings Co., from Gene Richards, 283 Thorne Ave., Fresno, **$94,381***** grading, clearing, drainage, constr. 2 rein.-con. overhead structures over tracks of Southern Pacific Co. between 1 mi. east of Auburn and 1 mi. west of Applegate, Placer Co., from United Concrete Pipe Corp. & Ralph A. Bell, Box 425, Baldwin Park, and Westbrook & Pope, 2231 Fair Oaks Blvd., Sacramento, **$1,107,646.** CD 4/4—ENR 4/7.

Colorado—State Hy. Dpt., Denver, Apr. 28, surf., oil processing and structures 7.33 mi. State Hy. 8, between Conifer and Morrison, Jefferson Co., from Colorado Paving Materials, Inc., 725 W. 39 Ave., Denver, **$132,045.** Est. $170,815. CD 4/20.

Colorado—State Hy. Dpt., Denver, grading, surf., structure, oil processing 15.846 mi. State Hy. 50, from point on north Baca Co. line to point 469.9 ft. south of north city limits of Springfield, Baca Co., from Peter Kiewit & Sons Co., 1950 S. Colorado Blvd., Denver, **$392,-770.** Est. $474,895. CD 4/20.

Md., Baltimore—Mayor & City Council, City Hall, Apr. 27, macadam street paving, Hy. Contr. 964, from Mahoney Bros., Knickerbocker Bldg., **$99,769;** c. conc. paving streets, Contrs. 965 and 986, from Carozza Hamill & Co., 10 W. 25 St., **$78,188** and **$82,343** respectively. CD 4/22.

Montana—State Hy. Dpt., Helena, rejected bids Apr. 26, grav. 0.89 mi. Missoula-Florence Rd., Missoula Co., L. B. **$50,554.** CD 4/14—ENR 4/21, under LB.

New Hampshire—State Hy. Dpt., Concord, Apr. 29, grading, drainage, road mix surf. 1.14 mi., surf. 81 ft. 3 span continuous reinf.-conc. slab bridge, N. H. Route 3A, in town of Bristol, Grafton Co., from Arthur Whitcomb Constr. Co., Inc., 725 Main St., Keene, **$174,581.** CD 4/18—ENR 4/21.

New Jersey—State Hy. Dpt., S. Miller, Jr. comr., Trenton, Apr. 28, constructing 0.38 mi. Rt. 4, Parkway, Sect. 2B and 2C, bridges approaches at Route 25 and Port Reading Branch, Reading Co., Woodbridge Twp., Middlesex Co., from J. F. Chapman & Son, 1459 N. Broad St., Hillside, **$934,511.** CD 4/13—ENR 4/21.

Pennsylvania—State Hy. Dpt., Harrisburg, Apr. 29, bit. 5.2 mi. U. S. 11, Camp Hill Boro, Silver Spring and Hampden Twps., Cumberland Co., from Hempt Bros., R. D. 1, Camp Hill, **$189,888***** macad. 4 mi. wid., surf. Traffic Route 68, Sligo Boro, Piney and Toby Twps., Clarion Co., from County Constr. Co., Carnegie, **$155,621***** macad. 9.22 mi. U. S. 219, Horton and Ridgway Twps., Elk Co., from McMinn's Industries, Inc., R. D. 4, Lancaster, **$179,354.** CD 4/11—ENR 4/14.

Ia., Audubon—City, City Hall, paving, to Booth & Olsen Co., Insurance Exchange Bldg., Sioux City, **$87,266.** Est. $90,000.

CONTRACTS AWARDED

Mississippi—State Hy. Dpt., Jackson, double bit. surf. 11.515 mi. Mississippi Hy. 3, F. A. S. P. S-330 (6), Hinds Co. to R. B. Tyler Co., 1446 Levering St., Louisville, Ky., **$71,327** est. $41,-000***soil cement stabilized base, double bit. surf. 5.253 mi. Mississippi Hy., 12, F. A. S. P. S-252 (4), Humphreys Co., to Delta Paving Co., 1502 N. Mill St., Jackson, **$88,253** est. $65,000 ***c. conc. 5.303 mi. U. S. Hy. 80 F. A. P. UI 251 (7) State Proj. SP 80-1251 (1), Lauderdale Co. to Cobb Bros. Constr. Co., Citizens Bank Bldg., Meridian, **$216,350** est. $235,000***grading, drainage structures, culverts, bridges 3.378 mi. unnumbered State Hy., FASTS 227 (1), Lincoln Co., to Dickerson & Bowen, Brookhaven, **$91,377** est. $86,000***base, preparation, double bit. surf. 8.046 mi. Mississippi Hy. 8, F. A. P. F 225 (2), F. A. S. P. S-93 (4), Monroe Co., to J. B. Michel & Co., Inc., 1021 Haywood St., Memphis, Tenn., **$64,873** est. $80,000***grading, drainage structures, culverts, bridge 0.633 mi. Mississippi Hy 32, F. A. S. P. S-43 (7), Tallahatchie Co., to J. H. Moon, Port Gibson, **$152,206** est. $165,000. Grand total **$784,-386.** Bids 4/26. CD 4/20.

●**Montana**—State Hy. Dpt., Helena, grav 11.9 mi. Alzada-Ekalaka Rd., Carter Co., to Lou Richardson, Miles City, **$78,838***grav., oil 8.5 mi. Miles City-North Dakota line road, Custer Co., to Heald Constr. Co., Cody, Wyo., **$146,735** ***grav., bit. surf. 14.5 mi. Grassrange-Jordan Rd., Garfield Co., to Peter Kiewit Co., Sheridan, Wyo., **$282,169***grade, grav, road mix oiling 4.1 mi. Dodson east sect. Dodson-Malta Rd., Phillips Co., to Riggins-Nelson Co., Harlem, **$139,556***grav., oil 1.2 mi. Terry-Glendive Rd., Prairie Co., to Walling Constr. Co., Lewiston, **$51,470***grav., and road mix oil 11.8 mi. Girard-Fairview and Fairview west roads, Richland Co., to Albert Lafonde, Sidney, **$166,-110***drain, grav., oil 8.1 mi. Conrad-Shelby Rd., involv. 816,352 cu. yd. excav., 981 cu yd. culvert excav., 2,814 ft. rein.-con. pipe culverts, 5,225 ft. snow fence, etc., Toole Co., to S. J. Groves & Sons Co., 510 W. 22nd Temple Bldg., Minneapolis, Minn., **$503,165***grav., oiling 1.7 mi. Billings-Pompeys Pillar Hy., Yellowstone Co., to Stanley Arkwright, Securities Bldg., Billings, **$66,127.** Grand total $1,434,070. CD 4/14—ENR 4/21.

Tex., Edna—Jackson Co., Courthouse, Edna, road construction between Cordele area and State Hy. 12, own forces. **$50,000.**

Tex., Houston—Southcrest, Inc., Union Natl. Bank Bldg., street constr. and asph. paving, to Vernon Miller, 2015 McClendon St., **$55,000.** CD 4/28.

Wisconsin — State Hy. Comn., Madison, c. conc. 9,755 mi. Appleton-Green Bay (Kaukauna-DePere) Rd. U. S. Hy. 41, Contr. 1, Proj. F 03-2 (18) and FAP F 03-2 (19), Outagamie and Brown Counties, to Schuster Constr. Co., Denmark, **$558,164.** Bids 4/26—ENR 5/2—ENR 5/5, under LB.

●**Quebec** — Province of Quebec, Quebec City, widen. and reconstruction hy. between Matapedia and St. Jean L'Evangiliste, to Quemont Constr. Inc., 285 Bernard St., Montreal, **$1,000,-000.**

EARTHWORK, WATERWAYS

BIDS ASKED

May 17

†**California**—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., radial gates, radial-gate hoists for Tule River Check, Station 5163 plus 49.93, Deer Creek Check, Station 5534 plus 74.79, Tule River Wasteway, Station 5161 plus 81.00 and Deer Creek Wasteway, Station 5534 plus 16.46, Friant Kern Canal, Central Valle Project Spec. 2630. Extended date. CD 4/5—ENR 4/7.

May 27

†**Oklahoma**—U. S. Eng., P. O. Box No. 61, Tulsa, manufacture, testing and delivery f.o.b. railroad cars at Gore, sluice gate and accessories for Tenkiller Ferry Dam, Inv. No. Eng-34-066-49-107.

May 31

†**Washington**—Bureau Reclamation, Dpt. Interior, Federal Bldg., Yakima, channel imprvs. below Keechelus Dam, approx. 11 mi. northwest of Easton, Spec. No. R1-42.

June 1

†**Washington**—Bureau Reclamation, Dpt. Interior, Yakima, spillway alteration, Keechelus Dam, Storage Division, Yakima Proj. Spec. 2655.

About June 2

†**Illinois and Missouri**—U. S. Eng., Clock Tower Bldg., Rock Island, Ill., upper approach dikes at Lock 17, left bank Mississippi River, Mercer Co., Ill., approx 4 mi. upstream from New Boston, Ill., involving 85,900 cu. yd. embankment fill, 6,920 cu. yd. riprap protection, 5,675 cu. yd. grav. or crushed rock protection, 3 pile clusters; Lock and Dam 22, right bank Mississippi River Ralls Co., Mo., approx. 1 mi. downstream from Saverton, Mo., involving 90,800 cu. yd embankment fill, 6,490 cu. yd. riprap protection, 3,875 cu. yd. gravel or crushed rock protection, 3 pile clusters.

June 2

†**Washington**—Bureau Reclamation, Dpt. Interior, P. O. Box 1377, Federal Bldg., Yakima, rehabilitation Tieton Dam and spillway, approx. 30 mi. west of Yakima, Spec. R1-43.

About July 1

†**Ohio**—U. S. Eng., Madison Ave. and 8 St. W., Huntington, W. Va., pump equip. installation and alterations to Pump Stations Nos. 2, 4, 5, and 6, Local Protection Proj. Portsmouth-New Boston, Scioto Co. Plans deposit $15.

LOW BIDDERS

†**Iowa**—U. S. Eng., 1709 Jackson St., Omaha, Neb., Apr. 28, Unit II, levee near Missouri River, flood protection from overflow of Indian Creek, Serial No. Eng. 25-066-49-137, from Ace Constr. Co., 2100 S. 55 St., Omaha, Neb., **$337,188.** CD 4/19—ENR 4/21.

†**Minn., Minneapolis**—U. S. Eng., 1217 U. S. Post Office and Custom House, St. Paul, Zone 1, Apr. 26, lower approach dredging Stage 2, Lower Lock and Dam. St. Anthony Falls, Mississippi River, Serial No. Eng. 21-018-49 85, from Dunbar & Sullivan Dredging Co., 2312 Ruhl Bldg., Detroit, Mich., **$689,730.** Est. **$890,278.** CD 4/13—ENR 4/21.

CONTRACTS AWARDED

†**Connecticut**—U. S. Eng., Park Square Bldg. Army Base, Boston, 10, Mass., dredging Clinton Harbor, Serial No. Eng-19-014-49-79, to Valley Enterprises, Saybrook, **$53,756.** Est. $61,800. Bids 4/21. CD 4/15

†**Tex., San Benito**—International Boundary & Water Comn., United States and Mexico, Cameron Co. Bldg., San Benito, Rio Grande River Levee and River Bank Revetment, to Dodds & Wedeszatter, 382 N. Bowie St., **$129,701.** CD 7/25/45—ENR 8/2/45.

PUBLIC BUILDINGS

BIDS ASKED

May 9

Conn., Niantic—Town of East Lyme, W. W. Scott, chn., School Comn., school alterations, addns., 7 classrooms, auditorium, gymnasium, first aid room, teachers room, kitchen and locker room, Pattagansett Ave. Schofield & Lindsay, 309 State St., New London, archts.

May 11

●†**Pa., Wilkes-Barre**—U. S. Eng., P. O. Box 1715, Baltimore 3, Md., Veterans Admin. Hospital Standard Quarters, Serial No. Eng-18-029-49-61. For Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. Extended date. CD 4/8—ENR 4/14.

May 12

†**N. M., Albuquerque**—U. S. Eng., P. O. Box 1538, engineering towers and equipment bldg., School of Mines, Serial No. 291-49-96. CD 4/25—ENR 4/28.

Wis., Wauwatosa—Milwaukee Co. Institutions & Dpts., Wauwatosa, school addn., and auditorium, gymnasium and pool. $800,000. Extended date. J. Messmer, co. archt. CD 4/5—ENR 4/7.

May 13

Fla., Gainesville—State Bd. Control, c/o Guy C. Fulton, archt. 204 Peabody Hall, engineering bldg., Proj. at University of Florida. Approx. $250,000. Plans deposit $50. CD 4/29/44—ENR 8/13/44.

May 16

†**Colorado**—Bureau Reclamation, Dpt. Interior, Region 7, New Customhouse, Denver, aluminum and steel hollow metal doors, door frames, glass partition panels for Estes Power Plant, Spec. R7-45-c, Region 7). L. N. McClellan, ch. engr. and archt.

Ky., Henderson—City, City Hall, power and light imprvs., Contr. 10, turbine generators; Contr. 11, condensers; Contr. 12, steam generators. Burns & McDonnell, 95 and Troost Sts., Kansas City, Mo., engrs. CD 11/12—ENR 11/25.

May 17

Fla., Marianna—Jacks Co. Bd. Pub. Instruction, Marianna, 32,000 sq. ft school and gymnasium. •Plans deposit $40. James A. Stripling & Assoc., Child Bldg., Tallahassee, archt.

May 18

Calif., Richmond—Richmond School Dist., 1108 Bissell Ave., 1 story, frame J. O. Ford School, incl. library unit, kindergarten, cafeteria, assembly room and classrooms. $260,000. Plans deposit $20. Charles F. Strotheff 1855 Market St., San Francisco, archt. CD 2/19/48—ENR 3/4/ 48.

Calif., San Francisco—Dpt. P. Wks., City Hall, (1) general work (2) electrical work and (3) plumbing and mechanical work Lawton School addn. Jobs No. 732, 732 A and 732 B Approx $250,000. Plans deposit (1) $20 (2) and (3) $10. Dodge A. Riedy, city archt. CD 11/17/48—ENR 12/9/48.

La., Winnsboro—Franklin Parish School Bd., Winnsboro, 1 story, 41x103 ft. brick cafeteria, 1 story, 40x80 ft. frame classroom bldg., Crowville, John W. Baker, Winnsboro, engr., 40x80 classroom bldg., 66x150 ft., brick gymnasium, remodeling old gymnasium, Gilbert, Wm. King Stubbs, Monroe, archt. Plans deposit $15.

Mo., Mount Vernon—State Dpt. P. Health & Welfare, Samuel Marsh, dir., State Office Bldg., Jefferson City, and Missouri State Sanitarium, Mount Vernon, 9 brick, concrete staff residences, utility distr. and sanitary sewers, Missouri State Sanitarium. Plans deposit $25. Johnson & Robinett, Landers Bldg., Springfield, archts. CD 9/25/47—ENR 10/16/47.

May 19

Mass., Melrose—City, Glen S. Weeks, engr., City Hall, 2 story, basmt., brick, steel school, Damon Ave. $400,000. Plans deposit $100. W. H. Jones & Sons, 115 W. Emerson St., archts. Extended date. CD 3/23—ENR 3/31.

May 20

Mass., Westboro—Commonwealth of Mass., Dpt. Mental Health, Dr. Clifton T. Perkins, comr., 100 Nashua St., Boston, power plant steam lines, equip., Westboro State Hospital, State Proj. P-M 36, Contr 1. Plans deposit $20. Sill & Warrenton, 79 Milk St. Boston, engrs. CD 8/14/44—ENR 8/24/44.

May 23

Tex., Seymour—Seymour Independent School Dist., Seymour, masonry elementary and high school. $300,000. Wyatt C. Hedrick, 1005 First Natl. Bank Bldg., Fort Worth, engr. CD 1/19—ENR 2/3.

May 24

●**Miss., Sanitorium**—State of Mississippi, Jackson, 6 bldgs., incl.,5 story, rein.-con. infirmary, 1 story recreation bldg., 1 story nurses home, 1 story attendants dormitory, two 1 story residences. Approx. $1,000,000. Plans deposit $75. R. W. Naef, Masonic Temple Bldg., Jackson, engr. and archts. Biggs, Weir & Chandler 224 Congress St., Jackson, assoc. archts. Burt Lomax, Jr., Masonic Temple Bldg., Jackson, mech. engrs. CD 8/12—ENR 9/2.

May 25

Tex., Longview—Gregg Memorial Hospital, Longview, 40 room hospital addn. $689,400. Extended date. Wilson, Morris & Crain, 3212 Smith St., Houston, and Staub & Rather, 300 Stuart St., Houston, consult. archts. W. P. Moore, 4605 Montrose St., Houston, engr. CD 5/2—ENR 5/5

May 26

Wis., Eau Claire—Eau Claire Co., Eau Claire, 2 story, L shaped, 22x44 ft., and 4 story, 32x102 ft. concrete, steel, brick Sanatorium annex and dormitory at Mt. Washington Sanatorium. $300,000. Plans deposit $50. E. F. Klinger & Assoc., 218 S. Barstow St., archts. CD 1/26—ENR 3/3.

June 1

La., Lockport—Lafourche Parish School Bd., Thibodaux, 1 story, 65x190 ft., brick Senior High School, 40x120 ft. gymnasium. Plans deposit $20. Favrot & Reed, 402 Nola Bldg., New Orleans, archts. CD 1/12/44—ENR 1/27/44

N. Y., Long Island City—New York City Housing Auth., 63 Park Row, New York, Zone 7, (1) general contract, (2) heating and ventilating (3) a electrical work and (4) plumbing for Sect. 1, consisting of boiler house and bldgs numbered 1 to 17 (inclusive) of Ravenswood Homes, Proj. NYC-20 in area bounded by 34 Ave., 24 Sts. and 36 Ave. and 21 St. Plans deposit $75. CD 9/8/47—ENR 9/18/47.

June 7

†**Washington** — Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point of, f.o.b. cars Odair, one 72 in. ring-seal gate, hoist, drive unit, position indicator, limit switch, seal-control valve and wrenches for station-service penstock, Grand Coulee Power Plant, Columbia Basin Proj., Spec. 2657.

June 9

●**Wis., Madison**—Bd. Regents University of Wisconsin, Madison, State of Wisconsin General Hospital at University of Wisconsin, $3,000,000. Plans deposit $25. Schmidt, Garden & Erikson, 104 S. Michigan Ave., Chicago 3, Ill., engrs. and archts. CD 11/10—ENR 12/23.

LOW BIDDERS

Calif., Tracy — Tracy Union High School Dist., Tracy, Apr. 26, steel rein.-con. Tracy Union High School bldgs., incl. classroom, homemaking, locker and shower bldgs., gymnasium and connecting corridors, from Goocher enough Constr. Co., 525 S. Aurora St., Stockton, **$525,498.** CD 3/31—ENR 4/7.

Colo., Denver—School Dist. 1, W. W. Grant, pres. Bd., 414 14 St., Apr. 27, general contract 2 story, 16 classroom and gymnasium addn. to Smiley Junior High School, from Continental Constr. Co., Denver National Bank Bldg., **$289,834.** CD 4/22.

Kan., Emporia—Bd. Educ., Emporia, Apr. 21, general contract Walnut School, from Frank E. Blaser Co., Box 112, Wichita, **$267,-563.** CD 2/11—ENR 2/17.

●†**N. M., Albuquerque**—U. S. Eng., P. O. Box 1538, Apr. 28, 1 and 2 story, 320x360 ft., steel industrial type bldg., mon. conc. extens., masonry interior walls, Bldg. A-17, Sandia Base, from R. J. Daum Constr. Co., 1005 W. Coal St., **$2,881,114.** Est. $1,000,000. CD 3/23—ENR 3/31.

Proposal Advertisements see pp. 88 & 89

U. S. Government

(Continued from page 87)

Public Roads Administration, Federal Works Agency, April 25, 1949. SEALED BIDS will be received at the office of the Division Engineer, Public Roads Administration, 1440 Columbia Pike, Arlington, Virginia, until 10:00 a.m., D.S.T., May 24, 1949, for Project 2P5, Blue Ridge Parkway, Buncombe County, North Carolina. Reinforced Concrete Tunnel Lining, Stone Masonry Portals, and other work. The approximate quantities of the more important items are 530 Cu. Yd. Concrete, 110,000 Lb. Reinforcing Steel and 81 Cu. Yd. Stone Masonry. Minimum wage rates have been fixed as required by law. For plans and specifications, a deposit of $10.00 cash or certified check made payable to the Treasurer of the United States, will be required to insure their return within 15 days after the opening of bids. Plans, Specifications and Proposal forms may be obtained at the address given above, or at Public Roads Administration, 410 State and City Office Building, Roanoke, Virginia. H. J. Spelman, Division Engineer.

(112)

NEW ORLEANS DISTRICT, CORPS OF ENGINEERS, Foot of Prytania Street, New Orleans, La.—Sealed bids will be received in this office until 11:00 a.m., CST, 9 June 1949, and then opened for the construction of the terrace section of Texarkana Dam, Bowie County, Texas, in the New Orleans District. Principal quantities involved are approximately 2,500,000 cubic yards of compacted fill, 137,000 cubic yards of dumped riprap, 55,000 cubic yards of filter gravel, the construction of 2 miles of road and a slope drainage system. Further information on application.

(111)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. 2647) will be received by Bureau of Reclamation, June 2, 1949, and then publicly opened for furnishing labor and materials and performing all work for the construction of 115-kv transmission lines between Granby Pumping Plant and Estes and Marys Lake Power Plants, Colorado-Big Thompson Project, Colorado. The transmission lines will consist of approximately 34.2 miles of wood-pole, H-frame, three-phase, single-circuit lines; 5.6 miles of three-phase, single-circuit, steel-tower line over the Continental Divide; and 2 miles of three-phase, double-circuit, steel-tower lines near Estes Park, Colorado; all complete with two overhead ground wires. Time allowed for completion will be 300 to 450 days. For particulars, address Bureau of Reclamation, Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner.

(105)

Office of the District Engineer, Corps of Engineers, U. S. Army, 1217 U. S. Post Office and Custom House, St. Paul 1, Minnesota. Sealed bids, in duplicate, for furnishing all labor and materials and performing all work required for Construction of Stage No. 2, Spillway and Embankment to Closure, Home Dam, Park River, North Dakota, will be received in this office until 11:00 A.M., C.S.T., 17 May 1949, and then publicly opened. Further information upon application.

(998)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. 2642) will be received by Bureau of Reclamation, Denver, Colorado, May 24, 1949, and then publicly opened for furnishing distribution boards, battery chargers, pump motor protection control cabinets, lighting distribution transformers, thermostats, and pressure and temperature switches for Tracy switchyard and Pumping Plant, Central Valley Project, California. Delivery is desired within 300 days. For particulars, address Bureau of Reclamation, Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner.

(104)

CONTRACTORS
Watch this Section
for New Projects
Publish your announcement thru the "Proposals Section" of Engineering News-Record and get their bids.

U. S. Government

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. 2648) will be received by Bureau of Reclamation, Coulee Dam, Washington, May 26, 1949, and then publicly opened for furnishing labor and materials and performing all work for the construction of earthwork and structures, station 1+28.67 to station 964+00, Winchester wasteway, Columbia Basin Project. The work is situated about 8 miles east of Quincy, Washington. Principal items in two schedules are approximately: 2,337,000 cu. yds. excavation; 9,700 cu. yds. riprap; 9,000 cu. yds. concrete; 86 M.b.m. timber in bridges; and other work. Time allowed for completion will be 600 days. For particulars, address Bureau of Reclamation, Coulee Dam, Washington; or Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner.

(106)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. 2646) will be received by Bureau of Reclamation, June 2, 1949, and then publicly opened for furnishing labor and materials and performing all work for the construction of 69-kv power-cable and open-wire transmission circuits and 115-kv transmission lines, for Colorado-Big Thompson Project, Colorado. Principal items are approximately: 13 miles of 69-kv pressure cable in Adams Tunnel; 8.5 miles of 69- and 115-kv, single-circuit, wood-pole transmission lines; 2 miles of 115-kv, double-circuit, steel-tower lines; and other work. Time allowed for completion will be May 1, 1950 for the cable installation and 300 to 450 days for all other work. For particulars, address Bureau of Reclamation, Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner.

(107)

OFFICIAL PROPOSALS

Bids: May 19, 1949 (113)

Water Treatment Plant

CONSTRUCTION OF IMPROVEMENTS AND ADDITIONS TO THE MUNICIPAL WATER TREATMENT PLANT FOR THE CITY OF EL PASO, TEXAS

NOTICE TO BIDDERS:

Sealed proposals, addressed to the Mayor and City Council of the City of El Paso, Texas, for the construction of additions and improvements to the municipal water treatment plant for the City of El Paso, Texas, will be received at the office of the City Clerk in the City Hall until 10:00 o'clock A. M., Mountain Standard Time, Thursday, May 19, 1949, and then publicly opened and read aloud.

A Certified Check issued by a bank satisfactory to the City, or a Bidder's Bond executed by some reliable corporate surety company authorized to do business in the State of Texas, in the amount of five percent (5%) of the largest possible lump sum bid submitted, payable without recourse to the City of El Paso, Texas, must accompany the Bidder's Proposal, as a guaranty that the Bidder will enter into a contract and execute the required performance bond and guaranty in the forms provided within ten (10) days after notice of award of contract to him. Bids or proposals without the required Bid Guaranty will not be considered.

Complete copies of the plans, specifications and contract documents may be examined at the office of Ashley G. Classen & Associates, Consulting Engineers, 301 N. Kansas St., El Paso, Texas, or may be obtained by prospective bidders upon a deposit of twenty dollars ($20.00). This deposit will be refunded to each actual bidder upon return of such documents in good condition within ten (10) days after receipt of bids.

Attention is directed to the fact that there must be paid on this project not less than the general prevailing rates of wages which have been established by the City. A schedule of such prevailing wages is contained in the specifications and contract documents covering the construction of the project. It shall be the Contractor's responsibility to inform himself thoroughly of all State, Federal and Local laws and statutes pertaining to the employment of labor and conditions of employment.

The Bidder's attention is directed to the fact that bids or proposals shall be submitted only on the forms provided therefor in the Contract Documents and must not be submitted in letter form or in any other form provided except by filling out in ink in both script and figures the proposal form provided in the specifications and contract documents which sets forth in detail the various items and approximate quantities thereof contained in the project and contract to be bid upon. Bids submitted in any other form will be considered irregular and will be returned to the Bidder unopened without receiving consideration by the Mayor and City Council.

The City of El Paso, Texas, reserves the right to accept or reject any or all proposals or bids, to waive technicalities, to make any investigation deemed necessary of a Bidder's ability to perform the work covered by the specifications, and to accept, what in the judgment of the Mayor and City Council, is the best bid.

THE CITY OF EL PASO, TEXAS
W. R. COLLINS
By: W. R. Collins, City Clerk.

OFFICIAL PROPOSALS

Bids: May 17, 1949 (108)

Fill, Rip-Rap and Culvert Construction

NOTICE TO BIDDERS
CITY OF LONG BEACH, NEW YORK

Sealed proposals for the construction of a sand fill, rip-rap embankment and culvert to replace each existing bridge on Pine Street at Sarazen, Ouimet and Hagen Cannals, will be received by the City Clerk until 8 P. M. Daylight Saving Time, on May 17, 1949, in Community Hall, at City Hall, Long Beach, New York, at which time and place the proposals will be opened and read.

Contract documents and specifications may be seen at the office of the City Clerk during the hours of 9 A. M. to 4 P. M. from Monday to Friday, inclusive. Copies will be furnished upon deposit of $5.00 per set. The deposit will be remitted if the documents are returned in good condition, not later than ten days after the opening of the proopsals.

The City Council of the City of Long Beach reserves the right to waive any informalities in or to reject any or all bids or to accept any bid which they deem to be most favorable to the interests of the City.

CITY OF LONG BEACH
Maurice J. Fleischman,
City Clerk

April 28, 1949

Bids: May 21, 1949 (114)

Remodeling Sewage Treatment Plant

NOTICE TO BIDDERS

Sealed bids will be received until 12:00 o'clock noon EST MAY 21, A. D., 1949, in the office of the City Auditor-Clerk of Fort Lauderdale, Florida, for Section 1 of "Remodeling Sewage Treatment Plant" in the City of Fort Lauderdale, Florida.

Bidding blanks may be obtained from the office of the City Engineer. Plans and specifications for the project are on file in the office of the City Engineer.

A deposit of $25.00 for plans and specifications and of $15.00 each for additional copies of plans or specifications will be required. All deposits made for plans and specifications will be refunded upon their return in good condition within ten (10) days of the opening of bids.

A Certified Check for 5% of the total amount of the bid, made payable to the City of Fort Lauderdale shall accompany each proposal as evidence of good faith and responsibility of the bidder. This check shall be retained by the City of Fort Lauderdale as liquidated damages should the bidder fail or refuse to enter into a contract with the City of Fort Lauderdale for the execution of the work embraced in the proposal, in the event the proposal of the bidder is accepted.

The City of Fort Lauderdale reserves the right to reject any or all bids.

S. H. MARSHALL,
City Auditor-Clerk

(Continued on page 89)

OFFICIAL PROPOSALS
(Continued on page 88)

Bids: May 16, 1948 (999)

Storm Drains

TOWN OF TONAWANDA, ERIE COUNTY, NEW YORK

Bids—May 16, 1949

Sealed proposals for the construction of storm drains will be received at the Council Room of the Municipal Building, Kenmore, New York, until 8:00 P.M. Eastern Daylight Saving Time on May 16, 1949, at which time they will be publicly opened and read.

The work is divided into three sections, designated as Sections F, H, and J, and bids may be submitted on any one or more sections.

Section F includes approximately 7,550 feet of 7 foot by 7 foot concrete conduit together with special structures, manholes, and appurtenances.

Section H includes approximate lengths of reinforced concrete pipe as follows, with special structures, manholes, and appurtenances:

1,420 feet of 78 inch pipe
420 feet of 72 inch pipe
720 feet of 66 inch pipe
940 feet of 60 inch pipe
900 feet of 54 inch pipe

Section J includes approximate lengths of reinforced concrete pipe as follows, with special structures, manholes, and appurtenances:

375 feet of 42 inch pipe
250 feet of 36 inch pipe
510 feet of 33 inch pipe
280 feet of 30 inch pipe
270 feet of 27 inch pipe
250 feet of 24 inch pipe

Proposal forms, plans and specifications may be obtained at the office of Nussbaumer and Clarke, the Consulting Engineers, 327 Franklin St., Buffalo 2, New York, upon deposit of $30.00 for Section J, $50.00 each for Sections F and H, or $80.00 for any two or more sections. The deposit will be refunded in full to any bidder upon returning of the plans and documents in good condition within 20 days after taking of bids. Non-bidders will be similarly refunded half of the deposit.

Each bid must be accompanied by security in the form and amount set forth in the Instructions to Bidders.

Chester A. Tilghman
TOWN CLERK

Bids: May 12, 1949 (994)

Construction Work At Wold-Chamberlain Field

MINNEAPOLIS, MINNESOTA

BIDS CLOSE AT 10:00 A.M. ON THE 12th DAY OF MAY, 1949.

NOTICE TO CONTRACTORS:

Sealed bids for construction of Schedules III and IV of first stage improvements to Wold-Chamberlain Field, owned and being operated by the Minneapolis-Saint Paul Metropolitan Airports Commission, a public corporation, located in the City of Minneapolis and the Village of Richfield in Hennepin County, Minnesota, will be received by the Minneapolis-Saint Paul Metropolitan Airports Commission at the office thereof, located at 2429 University Avenue, St Paul 4, Minnesota, until the hour of 10:00 A.M., on the 12th day of May, 1949, and will be publicly opened and read aloud immediately thereafter. The work, in accordance with plans and specifications prepared by Toltz, King and Day, Inc., Engineers and Architects, St. Paul, Minnesota, consists of approximately the following quantities of the major items of work:

SCHEDULE III

Excavation .....1,200,000 Cu. Yds.
Storm Sewers (12" to 60").. 28,000 Lin. Ft.
Manholes and Catch Basins..115 Structures
Cyclone Type Fencing.....14,000 Lin. Ft.
Rip Rap .....1,500 sq. yds
7'-9" Dia. Tunnel under Runway 170 Lin. Ft.

SCHEDULE IV

Electrical Manholes .....4 Structures
Transformers .....2 Transformers
Ducts and Conduit (4 Bank to 16 Bank) 650 Lin. Ft.
Primary Cable .....1,500 Lin. Ft.
Weatherproof Cable .....1,500 Lin. Ft.

Separate proposals are required for Schedules III and IV. Proposals shall be on blanks furnished for that purpose.

OFFICIAL PROPOSALS

The schedule of minimum wages as established by the Secretary of Labor and set forth in the special provisions, constituting a part of the plans and specifications, are to govern on this project, and bids shall be based on these established minimum wage rates.

Each bid must be accompanied by a certified check made payable to the Minneapolis-Saint Paul Metropolitan Airports Commission, in an amount not less than 5% of the total bid, or a surety bond in the same amount running to the Commission with a surety company thereon as surety duly authorized to do business in the State of Minnesota, as a guaranty that the bidder, if successful, will enter into a contract with the Minneapolis-Saint Paul Metropolitan Airports Commission and in connection therewith give bond as required by law, the amount of the check to be retained or the bond enforced by the Commission in case he fails to do so. All bid guarantees, except those of the two low bidders, will be returned within five (5) days after the opening of bids. The bid guarantee of the second low bidder will be returned within ten (10) days after the opening of bids.

No bidder may withdraw his bid for a period of forty-five (45) days after the date for the opening thereof. The Minneapolis-Saint Paul Metropolitan Airports Commission reserves the right to reject any or all bids and readvertise for new bids.

Plans and specifications are on file for inspection at the office of the Minneapolis-Saint Paul Metropolitan Airports Commission and the office of Toltz, King and Day, Inc., 1509 Pioneer Building, St. Paul 1, Minnesota. Contractors desiring plans and specifications for personal use may secure them from said Toltz, King and Day, Inc., upon deposit of $25.00 for each set of plans, except cross sections, and specifications for Schedule III, and $15.00 for each set for Schedule IV. $15.00 and $10.00, respectively, of these deposits will be returned upon return of the plans in good condition within a reasonable time after the date of opening of said bids. Cross sections may be obtained upon payment of an additional $20.00. No refund will be made for return of cross sections.

Dated at St. Paul, Minnesota, April 13, 1949.

Minneapolis-Saint Paul Metropolitan Airports Commission
By Robert Aldrich
Executive Director
2429 University Avenue
St. Paul 4, Minnesota

Bids: May 16, 1949 (109)

Sewer Extensions & Alterations

WEST SHORE SEWER DISTRICT—17-B SEWER DISTRICT and EXTENSION TO KAUNEONGA LAKE SEWER DISTRICT TREATMENT PLANT, in the TOWN OF BETHEL, SULLIVAN COUNTY, NEW YORK

NOTICE IS HEREBY GIVEN that the Town Board of the Town of Bethel, will meet at the Office of the Town Clerk, Kauneonga Lake, N. Y., at 2 p. m. Daylight Saving Time, on MAY 16, 1949, for the purpose of receiving sealed proposals for furnishing materials and equipment, and performing labor in the construction of the Sewer Extensions and Alterations to the TREATMENT PLANT AT KAUNEONGA LAKE, for the WEST SHORE SEWER DISTRICT EXTENSION, 17-B SEWER EXTENSION, and the KAUNEONGA LAKE SEWER DISTRICT, at which time and place, all proposals will then be publicly opened and read aloud.

The work will be divided into 3 Contracts, as follows:

CONTRACT 1. WEST SHORE SEWER DISTRICT pipe line, manholes and pumping plant substructure. (Approximately 1500 ft. 8" sewer line; 700 ft. 6" pressure line; 7 manholes; substructure for pumping station. Pipe furnished by the District).

2. 17-B SEWER DISTRICT pipe lines, manholes and pumping stations substructures. (Approximately 3000 ft. 10" sewer; 1000 ft. 8" sewer; 13 manholes; 1600 ft. 6" Transite Pressure Line; Substructures for pumping stations. Pipe to be furnished by the District).

OFFICIAL PROPOSALS

3. Alterations to KAUNEONGA LAKE TREATMENT PLANT, (including Primary and Secondary Settling Tank; Trickling Filter, and appurtenances).

FORM OF BID: Plans; Specifications and Estimates of the Expense; Proposed Contract Forms; and Forms of Proposals; and Performance Bond may be examined and copies thereof obtained at the Offices of MAL SHERWOOD, C. E., 219 Chestnut Street, LIBERTY, N. Y.

A payment of $10.00 for each set of Plans and Specifications for CONTRACTS 1-2, shall be paid on delivery of such sets. NO refund shall be paid.

On TREATMENT PLANT, extensions and alterations, CONTRACT 3, a payment of $40.00 shall be paid on delivery of such sets. Said payment will be returned to ALL ACTUAL BIDDERS, who return plans and specifications within 10 days of the opening of the bids. NO REFUND WILL BE MADE TO NON-BIDDERS.

EACH PROPOSAL must be accompanied by a certified check, payable to KARL REINSHAGEN, Supervisor, in the amount of 5% of the total amount of the bid, or a bond with sufficient sureties in the penal sum equal to the above stated amount, conditioned that if the proposal is accepted the bidder will enter into a contract for the execution of the work, and that he will execute such further security that may be required for the faithful performance of the Contract. ALL deposits except those of the successful bidders, will be returned.

The Town Board reserves the right to reject any or all bids.

Dated, April 22, 1949, at Kauneonga Lake, Sullivan County, N. Y.

TOWN BOARD OF THE
TOWN OF BETHEL
KARL REINSHAGEN, Supervisor.
Mrs. Fred Cooper
Town Clerk,
Kauneonga Lake, N. Y.

Bids: June 1, 1949 (110)

Addition to School

NOTICE TO CONTRACTORS

Separate sealed bids for the general construction, heating and ventilating, plumbing and electric wiring for an addition to the Thomas K. Beecher School Building in the City of Elmira, N. Y., at Sullivan and East Second Streets in said City, will be received by the Board of Education of the City of Elmira at their office in City Hall, City of Elmira, N. Y., until 8:00 o'clock P.M., E.D.S.T., on June 1, 1949, and at that time publicly opened and read aloud.

Information for Bidders, Form of Bid, Form of Contract, Plans, Specifications and Form of Bid Bond may be examined at said office. Copies of these documents for use in bidding may be obtained at the office of the architect, Robert T. Bickford, 215 W. Water St., Elmira, N. Y., upon payment of $25.00 for each set. Each bidder, upon returning such set promptly and in good condition to said architect's office will be refunded his payment and any non-bidder, upon so returning such set will be refunded $15.00.

The Board of Education of the City of Elmira reserves the right to waive any informalities in or to reject any or all bids.

Each bidder must deposit with his bid a certified check or a bidder's bond in an amount of not less than five per centum (5%) of the base bid in the form and subject to the conditions provided in the Information for Bidders.

Attention of bidders is called to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under the contract.

No bidder may withdraw his bid within thirty (30) days after the actual date of opening the bids.

THE BOARD OF EDUCATION
OF THE CITY OF ELMIRA
By Edith L. Hill
Acting Secretary

Dated, Apr. 25, 1949

READ THE OFFICIAL PROPOSAL COLUMNS OF ENGINEERING NEWS-RECORD THIS WEEK AND EVERY WEEK

SEARCHLIGHT SECTION

EMPLOYMENT • BUSINESS • OPPORTUNITIES • EQUIPMENT—USED or RESALE

UNDISPLAYED RATE:
(Not available for equipment advertising)
$1.20 cents a line, minimum 4 lines. To figure advance payment count 5 average words as a line.
INDIVIDUAL EMPLOYMENT WANTED undisplayed advertising rate is one-half of above rate, payable in advance.
PROPOSALS, $1.00 a line an insertion.

INFORMATION.
BOX NUMBERS care publication New York, Chicago or San Francisco offices count as 1 line additional in undisplayed ads.
DISCOUNT of 10% if full payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals).

DISPLAYED—RATE PER INCH:
The advertising rate is $11.50 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.
AN ADVERTISING INCH is measured ⅞ inch vertically on one column, 3 columns—30 inches —to a page. E.N.R.

NEW ADVERTISEMENTS received by May 10th appear in May 19th issue subject to limitations of space available.

DESIGNERS
HIGHWAY and STRUCTURAL

Excellent opportunities for immediate permanent employment with a progressive organization. Experience preferred, but not essential, in engineering design for highways, bridges, water and sewage treatment plants. Engineers needed also with experience in writing specifications and reports for water and sewer projects.

Desirable working conditions at salary commensurate with ability. Write for application blank. All replies will be held confidential and will be promptly acknowledged.

CAPITOL ENGINEERING CORPORATION
DILLSBURG, YORK COUNTY PENNSYLVANIA

WANTED
Draftsmen—
ARCHITECTURAL and STRUCTURAL

Experienced in industrial building. Applicants please state age, education, previous experience and salary desired. Photograph or snapshot not returnable.

AMERICAN ENKA CORPORATION
ENKA, N. C.
(near Asheville)

SUPERINTENDENT
WANTED

Permanent position, good pay, for high class SOBER superintendent capable of taking complete charge of all types of plant mix ASPHALT JOBS, seal coat and stabilized base work. Character and experience references required. Give full particulars in first letter. Location in Iowa.

HARGRAVE CONSTRUCTION CO.
2424 Bever Ave., Cedar Rapids, Iowa
Phone 2-5936

MAN WANTED
SALES ENGINEER

For selling and promoting asphalt construction and materials. Permanent position and excellent opportunity for right man. State qualifications and references.

SW-8369, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

WANTED
JUNIOR APPRAISAL ENGINEER

To assist Insurance Department of independent oil company set up equipment records and establish insurable values for oil production, refining, transportation and marketing properties. Applicants should have an engineering degree and at least one year's practical appraisal experience. Location—Middle West. Limited amount of traveling required. Good opportunity for continuous work and advancement.

P-8814, Engineering News-Record
330 W. 42nd St., New York 18, N. Y.

WANTED—Mechanical and Structural Engineers For designing and detailing work on concrete reinforcement, structural steel and hangar door construction. Requirements are three to four years practical experience or recent graduation from technical school. Desirable working conditions and opportunities for advancement. These openings are with a nationally known steel fabricating company, located in eastern Ohio. Applicants will please submit a record of their qualifications.
P-7737, Eng. N-R, 520 N. Mich. Ave., Chicago

WANTED

New York Construction Corp. has vacancy for a CHIEF CIVIL ENGINEER, Graduate—Registered. Must have A-1 experience in take-off, pricing and estimating for large heavy construction projects. State age and qualifications and salary expected. Also include photograph.

P-8815, Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

WANTED

New York Construction Corp. has vacancy for
SUPERINTENDENT

experienced in bridges, highways, sewers and various large heavy construction projects. State age and qualifications and salary expected. Also include photograph.

P-8816, Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

GRADUATE CIVIL ENGINEER

with broad experience, a substantial portion of which has been in hydraulics. An excellent opportunity with a large public utility located in eastern Pennsylvania. Apply by letter stating education, experience and salary requirements. Address

P-8786, Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

EXPERIENCED
ORNAMENTAL IRON DRAFTSMAN

Excellent opportunity with live growing organization in the South. Apply giving age, experience, references and salary required.

SOUTHERN ENGINEERING COMPANY
Charlotte, N. C.

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

CIVIL SERVICE

WANTED: BY Missouri State Highway Department, Jefferson City, Missouri, several experienced detailers and designers on reinforced concrete and steel bridges. Permanent position. Salary range up to $400 per month. Give complete details of education and experience.

WANTED: A Registered Professional Engineer, capable of handling Borough Management including highways, storm and sanitary sewer drainage, building construction and miscellaneous administrative duties. Must be of good character, able to assume responsibility and must devote full time. Will work with Borough Officials of fast growing community. Excellent opportunity for the right man. Start immediately. Submit reference, training, experience, age and salary expected. Address all communications to: Howard A. Achenbach, Secretary, Borough of Camp Hill, 2219 Yale Avenue, Camp Hill, Penna.

POSITIONS VACANT

WANTED—ENGINEERS, Architects, Draftsmen experienced in the design of sewers, sewage treatment plants, water treatment plants and industrial buildings. Also engineers to supervise construction. State qualifications, experience, salary requirements and date available. P-1155, Engineering News-Record.

WANTED: EXPERIENCED estimators, by large, established general contractor for work in New Mexico. Please write Engineering News-Record, P-8690, giving in detail, education, age, experience and family status. P-8690, Engineering News-Record.

BRIDGE DESIGNER Wanted: At least four years of experience in design of highway bridges. Must be familiar with design of intermediate structures, and capable of executing complete structural designs of small bridges and elevated structures. Must be a graduate civil engineer. Location—Washington, D. C. Salary at approximately $5200.00 per annum with periodic increases. Annual leave—26 days a year. Pension plan. P-8784, Engineering News-Record.

WANTED: ESTIMATOR for heating, plumbing, air-conditioning contractor located in Central Pennsylvania. State age, qualifications, experience and salary expected in first letter. P-8759, Engineering News-Record.

CHECKER-DETAILERS for Structural and misc. shop drawings. Permanent position. Hospitalization, health and accident insurance available. Vacations and holidays with pay. State education, experience, age, salary desired and when available. The J. T. Edwards Company, 1241 McKinley Avenue, Columbus 8, Ohio.

DRAFTSMAN—ONE structural and one ornamental iron 10 to 15 years experience. Norfolk, Virginia. P 8833, Engineering News-Record.

(Continued on the opposite page)

SEARCHLIGHT SECTION

POSITIONS VACANT
(Continued from the opposite page)

STRUCTURAL ENGINEER about 35-40, thoroughly experienced in reinforced concrete design. Willing to travel. Headquarters Kansas City. P-8755, Engineering News-Record.

STRUCTURAL STEEL detailers and checkers. Permanent positions for right men with established fabricator in Rochester, N. Y. Applicant must have 2 to 4 years' experience in drawing room of structural steel fabricator. State qualifications, experience and salary expected. Write P. O. Box 744, Rochester, New York.

REINFORCING BAR Detailer for work in New York City. Preferably experienced in both detailing and estimating for reinforcing bar fabricators. Write experience fully stating also salary desired. P 8801, Engineering News-Record.

CONSTRUCTION SUPERINTENDENT wanted by contractor for contract in Washington, D. C. Must have good knowledge of form work, placing and removing of concrete and laying out process with emphasis on building construction. P 8803, Engineering News-Record.

ESTIMATOR, EXPERIENCED, by progressive fabricator in Southeast. Apply giving age, experience, references and salary required. P 8810, Engineering News-Record.

ESTIMATOR FOR Building Construction projects running over $5,000,000.00. Must be experienced, quick and accurate in taking off quantities for excav., concrete, forms, masonry, etc. Write Fleisher Eng. and Constr. Co., P. O. Box 63, Kensington Station, Buffalo, N. Y.

POSITIONS WANTED

MASTER MECHANIC, service manager or shop foreman, age 42, experienced supervisor in the operation, repair and maintenance of heavy equipment, all phases of shop management, parts, etc., free to travel and can furnish the best of references. PW-8698, Engineering News-Record.

EXPERIENCED ESTIMATOR, Construction Engineer, well grounded in costs, 22 years with prominent general contracting firms, as chief engineer and business manager. Experience includes bidding and negotiating contracts, organizing and managing construction projects. PW-8692, Engineering News-Record.

CONCRETE SUPERINTENDENT: 28 years in concrete field. Aggregate, batch and crushing plants. Producing 200 to 900 yds. daily. Thoroughly experienced in all phases of concrete. Foreign position preferred. PW-8694, Engineering News-Record.

CONSTRUCTION SUPERINTENDENT: over 15 years experience in commercial, industrial and governmental work. Excellent references PW-8317, Engineering News-Record.

STRUCTURAL DESIGN Engineer. Graduate C.E., Age 45, 23 years experience designing steel, concrete and timber structures, together with any type of foundation. Thoroughly competent to execute complete structural designs on any type building or waterfront structure, and supervise the execution of working drawings. Correspondence invited for position of responsibility. PW-7208, Engineering News-Record.

PROJECT MANAGER or General Superintendent over 20 years experience on heavy construction, industrial plants, power plants, filter plants, bridge substructures, foundations—capable of organizing and coordinating entire project. Available May 15th, minimum salary $8500 per annum. Location south or southwest—permanent connection with reliable contractor only considered. PW-8680, Engineering News-Record.

Attention Contractors

LIVE WIRE! Project Mgr. or Gen. Supt. Graduate Reg. Engineer. Have complete organization Ch. Engineer foreman etc. Dams, Bridges—Harbor Work — Power Plants — Tunnels — Refineries — Sewerage Disposal Plants — Public & Industrial Bldgs. Expert on Heavy Foundations—Mass Concrete. Understand plant layout & equipment. Labor relations. Closing out large project on the East coast. Willing to travel anywhere. States or South America. Resume of experience furnished as well as references. Age 41. Best of health.

PW-8821, Engineering News-Record
330 W. 42nd St., New York 18, N. Y.

POSITIONS WANTED

CONSTRUCTION ENGINEER—Fifteen years experience, heavy construction, refinery and power plant work, United States and South America. Speak construction Spanish. Interested in foreign work only. Available now. PW-8762, Engineering News-Record.

PROJECT MANAGER: General or Job Superintendent; 30 years experience; heavy and light construction; housing; apartments; schools; hospitals; office buildings; chemical; industrial plants; powerhouses; handle all trades including mechanical and allied work. PW-8779, Engineering News-Record.

SUPERINTENDENT, 36, experience includes commercial, industrial, housing, federal, also estimating and purchasing. Excellent references. Available May 15. PW 8807, Engineering News-Record.

GENERAL SUPERINTENDENT: Project manager-Job liaison, experienced in directing large and medium multi construction operations, for public buildings, institutions, industrial plants, and heavy construction works. Organization builder, intelligent coordination of specialized sub-contractors and allied trades. "Cost conscious and profit minded". Excellent references. Soon available. Reply to Box 86, Kew Gardens, 15, N. Y.

DRAFTSMAN 44 y. unempl., hull-casting-detailer, B.S., machine design, wiring diag., elec. testfield, perspective, 10 y. exp., no anywhere. $175, PW 8823, Engineering News-Record.

BUILDING: PROJECT Manager graduate Civil Engineer licensed in several states, 25 years' experience building contracts of all types and similar structures, excellent estimator, purchasing, subletting, coordinator Midwest or East. Permanent position. PW-8791, Engineering News-Record.

CONSTRUCTION ENGINEER, Civil Engineer, licensed in Indiana, experienced in sewers, streets, roads, water treatment plants, distribution mains, public buildings and housing. 23 years municipal, 8 years federal, 3 years state construction experience. Midwest states preferred, available immediately. PW 8822, Engineering News-Record.

POSITION WANTED—Construction Superintendent, twenty years experience—piping, tower, and tank, plate and sheet steel and general. Age 49, references. PW 8808, Engineering News-Record.

SELLING OPPORTUNITIES WANTED

SALES MANAGER—Engineer. Many years experience, successful record Building industry. Will represent manufacturer or Engineering service East Coast with New York headquarters. Can take complete charge. RA-8630, Engineering News-Record.

SALES TERRITORY Wanted. Energetic established manufacturer's representative wants Missouri and/or Middle West territory. Building, mining, road supplies, tools, equipment. Graduate mining engineer with fifteen years field and sales experience with following. RA-8797, Engineering News-Record.

FOR SALE
NORTHWEST DRAGLINE
Model 104 with Twin City Gasoline Engine, 40 foot Boom with ¾ Cu. yd. Heavy Duty Dragline Bucket. Used condition—Available immediately
Worcester Soil Conservation District
Snow Hill, Maryland.

PUMPCRETE
Rex 160 single gasoline powered concrete pump with pipe etc., in excellent condition. $8700 value for quick sale at $5,000 net FOB Bartow, Florida.
HUTCHMAN COMPANY INC.
LAKELAND, FLA.

FOR SALE
Lorain TL-20 Truck Crane
combination crane dragline and clamshell; 65 ft. boom; used less than 3 mos. new machine guarantee. Cost over $19,500; for quick sale $15,000 fob cars Miami, Fla.
JAFRA, INC.
317 N. E. 71st St., Miami, Fla. Tel: 7-4571

FOR SALE

1—No. 56 Pioneer portable crushing plant powered by two D17000 Caterpillar Diesels equipped with 30-inch x 42-inch primary crusher, 24-inch x 54-inch roll crusher and with 40-inch x 12-foot traveling grizzly.

3—Koehring Dumpsters Serial Numbers D-2577, D-2578 and D-2579.

ALL IN EXCELLENT CONDITION
NOW AVAILABLE

Berry and Hall Machinery Co.
5632 E. Belknap St., Ft. Worth, Tex.
Phone - 8-7371

FOR SALE TRUCK CRANE
THEW LORAIN, Model L-30, Serial No. 9626, with 35 foot boom & tag line. Is equipped with New 5 KW. Koehler light plant Model SM11,230 volt, 36 inch Ohio magnet and cable reel, mounted on Bull Dog Mack truck. This unit is in excellent condition.
Progress Iron & Steel Company, 117 East Market Street, Louisville, Kentucky. Wabash 5401.

Seven New Portable
HIGH PRESSURE COMPRESSORS
Pneumatic Tires with Tow Bar
5—Sullivan Mod. 500 CFM Powered by Hercules Diesels; 2—Sullivan Mod. 630 CFM Powered by International Diesels.
For prompt delivery & attractive saving on present market price.
GENERAL MACHINE WORK
18 W. Chelten Ave., Chelten Phila. 44, Pa.

FOR SALE
1—¾ yd. Marion combination shovel, dragline and clamshell outfit in A-1 condition, equipped with new GM Diesel engine—never been used. Available now $13,500.00
C. G. KERSHAW CONTRACTING CO.
P. O. Box 3258 Birmingham 5, Alabama
Phone 2-1138

FOR SALE
1—Elec. Shovel, Marion Model 350; 8-10 c.y.
1—1600 HP, GM diesel
FS-8836, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

WANTED

WANTED
FAIRBANKS-MORSE
Ten Cylinder 8½ x 10 O. P. Diesel Engine, Model 38D.
P. O. Box #2057 Ventnor, N. J.

One used ASPHALT PLANT
State Size, Location, Condition, Price, etc.
W-8731, Engineering News-Record
330 W. 42nd St., New York 18, N. Y.

WANTED
Shovel Front
for Model 655B P&H Crane
ROBERT R. ANDERSON CO.
4550 W. Patterson Ave., Chicago 41 Ill.

SEARCHLIGHT SECTION

ROAD CONSTRUCTION EQUIPMENT

VALUED AT MORE THAN $1,000,000

WILL BE SOLD AT THE BIGGEST

PUBLIC AUCTION

OF ITS TYPE IN HISTORY!

ATTEND THIS MAMMOTH 2-DAY SALE

MAY 18, 10:30 A.M.
At The Contractor's Equipment Sales and Service Corporation at
WACO, TEXAS
2 miles south of town at intersection of Highways 6, 81, 84, & 77

★

MAY 19, 10:30 A.M.
At The Brazos Valley Construction Company (J. R. C. "Bob" Moseley)
WEATHERFORD, TEX.
21 miles west of town on Hwy. 80, then turn r. 4 miles on Hwy. 281

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CONSTRUCTION BUSINESS

Materials costs down as metals continue drop

Continuing declines in the prices of wire, cable, galvanized pipe and sheet and both red and white-lead paints have been the outgrowth this month of further cuts in non-ferrous metal costs.

Zinc has declined a total of 5 cents a pound since March 23—with shipments now being billed at 12¼ cents a pound. Copper prices have tumbled to 3½ cents below the nominal 23½-cent price quoted by the big mine producers, but there are few takers even at that low figure. Lead has seen a 30 percent drop to 15 cents a pound since March 8—and brass producers are repricing their products on the basis of 20-cent copper and 12½-cent zinc.

Wire and cable companies have joined the brass mills in recognizing the lower copper price, and have dropped quotations 3½ cents a pound on bare, weatherproof and magnet copper wire. The General Cable Corp. has reduced the prices of building wire products substantially between 20 and 25 percent since the beginning of the year.

Prices of galvanized pipe and sheet have closely followed the declines in zinc costs. Discount increases of up to 5½ percent by major producers have meant savings of up to $11 a ton on galvanized pipe. Galvanized sheets have generally responded at the rate of $1.25 a ton drop per 1-cent cut in the price of zinc.

Red and white lead paint costs have dipped for the second time since lead prices started down, according to reports from 20 cities covered by ENGINEERING NEWS-RECORD. Red lead which was down a maximum $3.50 per cwt. in April, has dropped again by between $2.60 and $3.35 per cwt., for a total 26 percent decline. White lead this month is off between $1.75 and $2.00, compared with an April drop of $1.75 to $2.75 per cwt. The net drop has been 14 percent.

Local price changes

Other May price changes reported to ENR include a six-city decline in asphalt prices. Paving asphalt dropped an average $1.45 per ton in four of the cities, with the top cut of $5.00 in Cleveland. Cast iron pipe is down $11.00 a ton in all 20 cities reporting. Warehouse prices of structural steel are down 50 cents per cwt. in Kansas City, 42 cents in Cleveland, and 7 cents in Detroit. In Philadelphia steel shapes gained 21 cents per cwt.

Steel reinforcing bars are down 50 cents per cwt. in New York, and 45 cents in Kansas City. In Philadelphia they gained 21 cents per cwt. Metal lath is stable in all reporting cities but Denver, where a 9 percent gain amounts to $4.00 per cwt. on diamond mesh, and $4.50 on ribbed lath.

Lumber prices are down this month in Baltimore, Cleveland, Dallas, New York, and Pittsburgh, bringing the 20-cities average cost of 2 x 4 yellow pine and Douglas fir down another $2.66. The net decline in the present downswing now stands at 14 percent—$12.54 per thousand board feet since July 1948. Plywood used for concrete forms is down $15 per 1,000 sq. ft. surface, on the Seattle base price.

Structural clay tile in Philadelphia is up between $14 and $28 per thousand for partition tile, and $33 to $50 for load bearing types. The average increase amounts to 13 percent. Philadelphia and Chicago window glass are down about 5 percent.

Scattered changes in ready-mixed concrete prices include per cu. yd. cuts of 50 cents in Pittsburgh, 30 cents in Minneapolis, 23 cents in Los Angeles —and a 40 cent gain in Baltimore.

Cost indexes lower

The current decline in construction costs is further substantiated by two recent index drops—1.4 points for the May ENGINEERING NEWS-RECORD Construction Cost Index, now down nearly 2 percent from October's peak, to 472—and 3 points for the March American Appraisal Co. Index, also about 2 percent under its October high, at 496.

The E. C. Boeckh Index gained 1 point to 391 in March, after a three month period of stability.

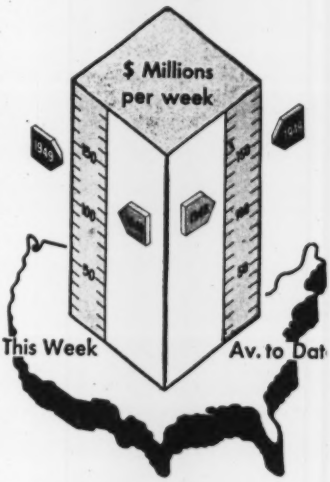
Tractor orders top output

Heavy demand for engines, graders, tractors and scrapers from buyers in five major national markets, has led the Caterpillar Co. to expand second quarter output in the anticipation of new orders topping the first quarter record.

Active tractor-sales markets include road construction, government agencies, logging and lumbering, and both agricultural and industrial purchasing. In the latter field, pipe lines, railroads, oil fields, marine transportation agencies, public utilities and mines are listed as especially active.

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	May '49	472.10	226.94
Building Cost	May '49	348.92	188.62
Volume	Apl. '49	268	118



Activity This Week

As reported to ENR (in millions of dollars)

Amount of Contracts let

	Week of May 5 1949	Cumulative 1949 (18 wks.)	Cumulative 1948 (19 wks.)	% chge av.wk.
Federal	$21.2	$383.8	$427.7	−5
State & Mun.	56.9	934.5	792.3	+24
Total Public	$78.1	$1,318.4	$1,220.0	+14
Total Private	51.2	1,273.0	1,095.2	+23
U. S. Total	$129.3	$2,591.4	$2,315.2	+18

Contracts by type of work

	This Week	Cumulative 1949 (18 wks.)	Cumulative 1948 (19 wks.)	% chge av.wk.
Waterworks.	$2.5	$54.5	$61.2	−6
Sewerage ..	2.1	75.6	77.9	+2
Bridges	3.6	112.9	100.8	+18
Highways ..	28.0	217.7	304.7	−25
Earthwork, Waterways.	18.7	221.9	217.1	+8
Buildings, Public	18.2	549.6	379.1	+53
Industrial .	9.9	349.6	341.5	+8
Commercial	36.2	811.6	667.0	+28
Unclassified .	9.9	198.1	166.0	+26

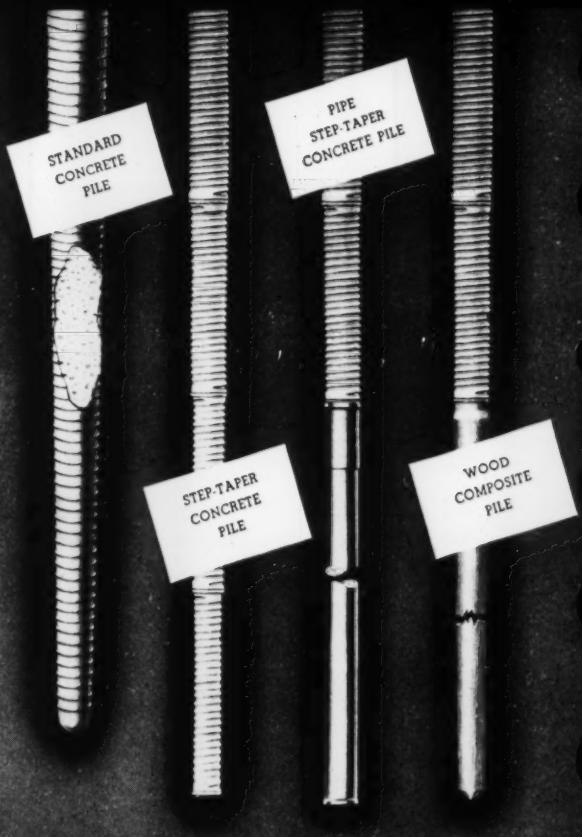
NOTE: Minimum size projects included are: Waterworks and waterway projects, $28,000; other public works, $50,000; industrial buildings, $68,000; other buildings, $250,000.

New capital for construction

	Cumulative 1949 (18 wks.)	Cumulative 1948 (19 wks.)	% chge av.wk.
NON-FEDERAL	$1,834.9	$1,265.0	+53
Corporate Securities	913.9	713.9	+35
State and Municipal	921.0	551.1	+76
Total Capital	$1,834.9	$1,265.0	+53

OUTSTANDING ADVANTAGES OF RAYMOND CONCRETE PILES

Raymond's successful experience for more than a half century has thoroughly proved these six outstanding advantages of Raymond Concrete Piles. These benefits, plus Raymond's expert personnel and specialized equipment, result in sound, dependable substructures that meet every requirement. You are invited to consult our engineers for the facts.



1 **PERMANENCY**

2 **GREATER CARRYING CAPACITY**

3 **UNIFORM BEARING CAPACITY**

4 **ENGINEERED FOR THE JOB**

5 **SAVING IN CONSTRUCTION COST**

6 **COMPLETE SATISFACTION**

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Includes every recognized type of pile foundation—concrete, composite, precast, steel, pipe and wood. Also caissons, underpinning, construction involving shore protection, shipbuilding facilities, harbor and river improvements and borings for soil investigation.

7 mile conveyor keeps rolling on 60,000 TIMKEN® bearings!

CONSTRUCTED in 21 sections, this conveyor delivers crushed rock from the surge pile seven miles away to Bull Shoals, Arkansas where the huge Bull Shoals dam is under construction. The conveyor belts are carried on 10,000 Robins troughing idlers—equipped with 60,000 Timken® bearings.

Robins idlers rely on Timken bearings because they give trouble-free performance and longer life. They turn smoothly and freely under the heaviest loads. Conveyor belt wear is reduced because there's no drag.

Because Timken tapered roller bearings permit tighter closures which retain lubricants and keep out dust and water, maintenance time is reduced to a minimum. Timken bearings carry radial and thrust loads in any combination, and the line of contact between rolls and races provides maximum load capacity. Timken bearings are made of the finest steel ever developed for tapered roller bearings . . . Timken fine alloy steel. Due to their true rolling motion, perfect roll alignment, and smooth surface finish, friction is practically eliminated.

Whether you use or make conveyor belt idlers—or any other kind of machinery—make sure the trademark "Timken" is on every bearing. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

This symbol on a product means its bearings are the best.

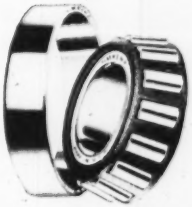
NEW TIMKEN BEARING CUTS RUN-OUT IN HALF!

Until now, the Timken "Zero" bearing has been the last word in bearing accuracy. Now Timken offers industry the "Double-Zero" bearing—*twice as accurate* as the "Zero"! Maximum run-out of the new "Double-Zero" bearing is only 75 millionths of an inch—*half* the 150 millionths run-out of the "Zero" bearing.

What an opportunity for manufacturers of machines where extreme accuracy is essential! Available in standard single row types, up to 10" O.D. Write for further information.

TIMKEN

TAPERED ROLLER BEARINGS



NOT JUST A BALL NOT JUST A ROLLER THE TIMKEN TAPERED ROLLER BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION